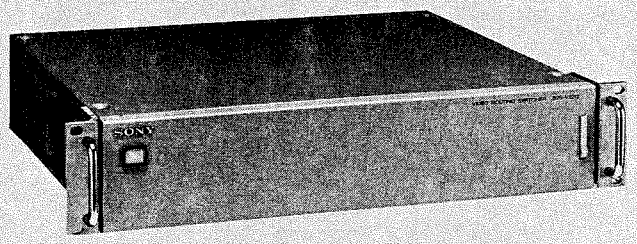
SONY

VIDEO ROUTING SWITCHER

BVS-V1212



OPERATION MANUAL

1st Edition

Serial No. 10001 and Higher

WARNING

WARNING: Using this unit at a voltage other than 120 V may require the use of a different line cord or attachment plug, or both.
To reduce the risk of fire or electric shock, refer servicing to qualified service personnel.

For the customers in the USA
This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. As temporarily permitted by regulation it has not been tested for compliance with the limits for Class A computing devices pursuant to Subpart J or Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC rules.

For the customers in Canada
This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Pour les utilisateurs au Canada
Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

目次

Table of Contents

Table des matières

Inhaltsverzeichnis

概要

ビデオルーティングスイッチャーBVS-V1212は、外部からのコントロールにより、最大12系統のビデオ入力信号をマトリックス方式で切り換え、12系統の出力ラインに任意の入力信号を出力するスイッチャーです。
本機はモニター出力も備えており、任意の入出力信号をモニターすることができます。
本機のコントロールは、別売りのリモートコントロールパネルBKS-R1210やその他の外部コントロール機器から行います。

各出力系統ごとに2個の出力コネクターを装備

各出力系統ごとにコネクターを2個ずつ備えており、選択した信号はこれら2個の出力コネクターの両方から送り出されます。また、2×12＝24個の出力コネクターのほかに、1系統（2個）の入出力信号モニター用コネクターを備えています。どの信号をモニターコネクターから送り出すかは、内部スイッチの切り換えや外部からのコントロールによって選択します。

BVS-A1212とともにビデオ/オーディオスイッチャーを構成

別売りのオーディオルーティングスイッチャーBVS-A1212と組み合わせて、ビデオ信号とオーディオ信号を同時に切り換えるためのスイッチャーシステムを構成できます。

本機3台でコンポーネントビデオの切り換えが可能

本機を3台使用することにより、コンポーネント信号（R、G、BまたはY、R-Y、B-Y）の切り換えを行うことができます。

シリアル/パラレル通信による制御が可能

LMS（ライブラリーマネジメントシステム）などから、ソニーの9ピンリモートインターフェース（RS-422A準拠）を介してコントロールできます。また、パラレル通信インターフェースを介して、リモートコントロールパネルBKS-R1210からコントロールすることもできます。

リファレンスビデオ信号分配回路を装備

リファレンスビデオ信号分配回路を備えており、8つの分配出力が取り出せます。LMSで使用する場合など、複数台のVTRやその他の機器に同一のリファレンス信号を供給することができます。

クロスポイントを1か月以上記憶可能

本機に10分以上通電すると、選択されたクロスポイントを、電源を切った後も1か月以上にわたって記憶し続けることができます。

標準ラックに取り付け可能

本機はEIA標準ラックに取り付けることができます（高さ2ユニット）。

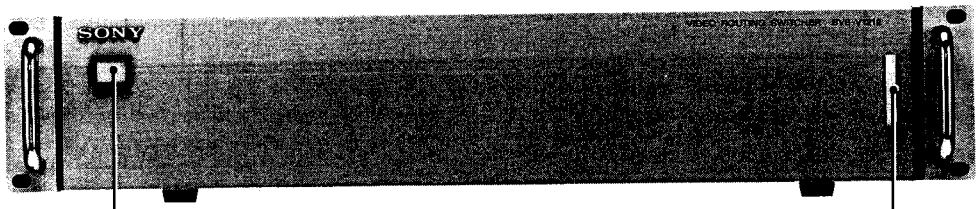
前面側からメンテナンスが可能

ラックに取り付けた状態でも、前面パネルを開けて内部基板を取り出すことにより、メンテナンス作業を行うことができます。

各部の名称と働き

前面パネルと内部

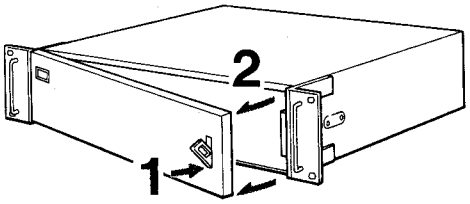
前面パネル



電源ランプ確認窓

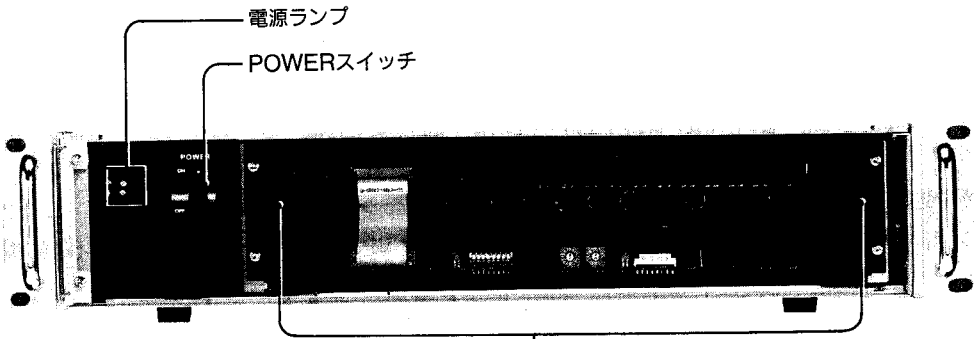
前面パネルロックレバー

前面パネルの開けかた

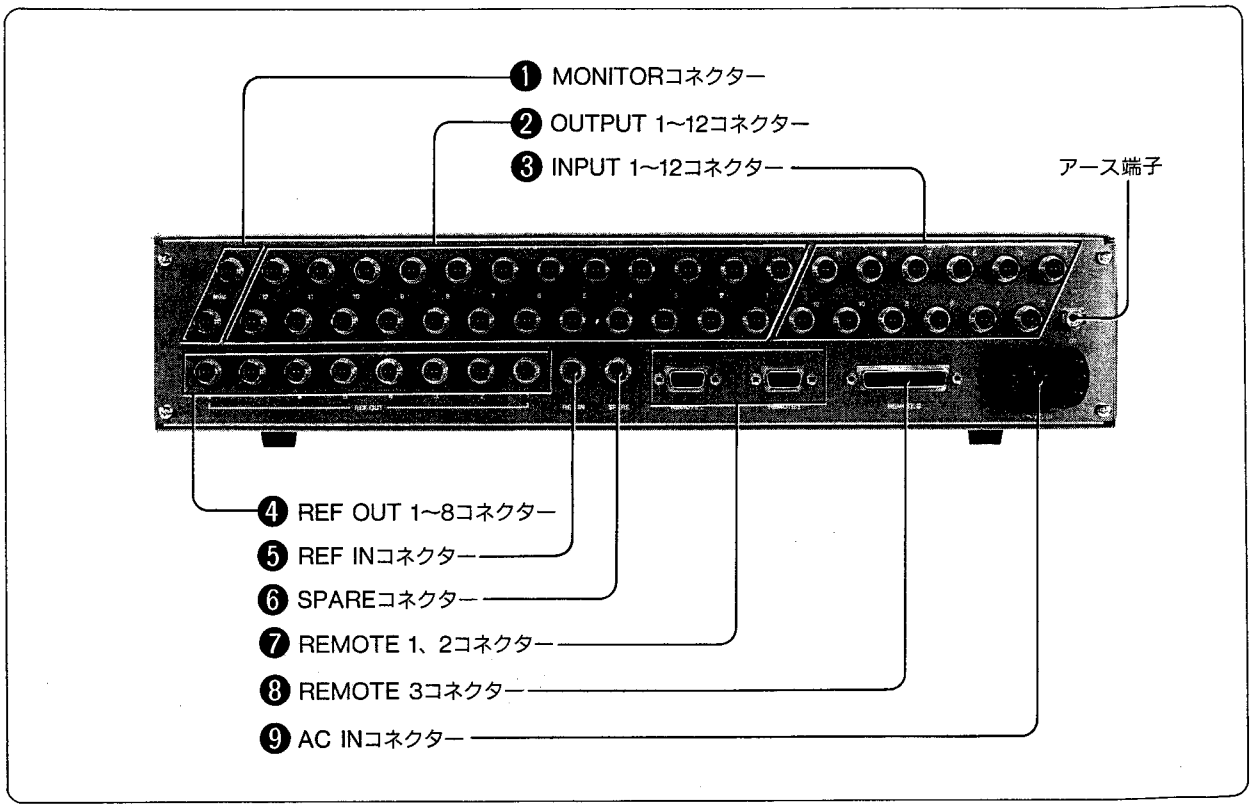


ロックレバーの下部を押し込み、
レバーを手前に引く。

内部



後面パネル



❶ MONITOR（モニター）コネクター（BNC型）

外部からのコントロールによって選択された入力信号または出力信号を出力します。上下2個のコネクターから同じ信号が出力されます。

❷ OUTPUT 1~12（ビデオ出力1~12）コネクター（BNC型）

外部からのコントロールによって選択された入力信号を出力します。上段の各コネクターと、左斜め下のコネクターとが対になっており、各対のコネクターからは同じ信号が出力されます。

❸ INPUT 1~12（ビデオ入力1~12）コネクター（BNC型）

ビデオ信号を入力します。75Ωで内部終端されています。

❹ REF OUT 1~8（リファレンスビデオ出力1~8）コネクター（BNC型）

REF INコネクター❺に入力されたビデオ信号がペデスタルクランプされ、8分配されて出力されます。

❺ REF IN（リファレンスビデオ入力）コネクター（BNC型）

リファレンスビデオ信号を入力します。75Ωで内部終端されています。

❻ SPARE（予備）コネクター（BNC型）

現在は使用されていません。

❼ REMOTE 1、2（リモート1、2）コネクター（D-SUB 9ピン）

いずれか一方に、LMSのコントローラーなど、ソニー9ピンリモートコントロールケーブルを介して本機をコントロールする外部機器を接続します。

2つのコネクターはループスルーになっています。したがって、一方のコネクターに外部コントロール機器を接続し、他方のコネクターにもう1台のスイッチャーを接続すると、同時に複数台のスイッチャーをコントロールできます。

一方のコネクターしか使わない場合は、内部基板上のジャンパーにより、終端抵抗をONにしてください。（詳しくはメンテナンスマニュアルをご覧ください）

❽ REMOTE 3（リモート3）コネクター（D-SUB 25ピン）

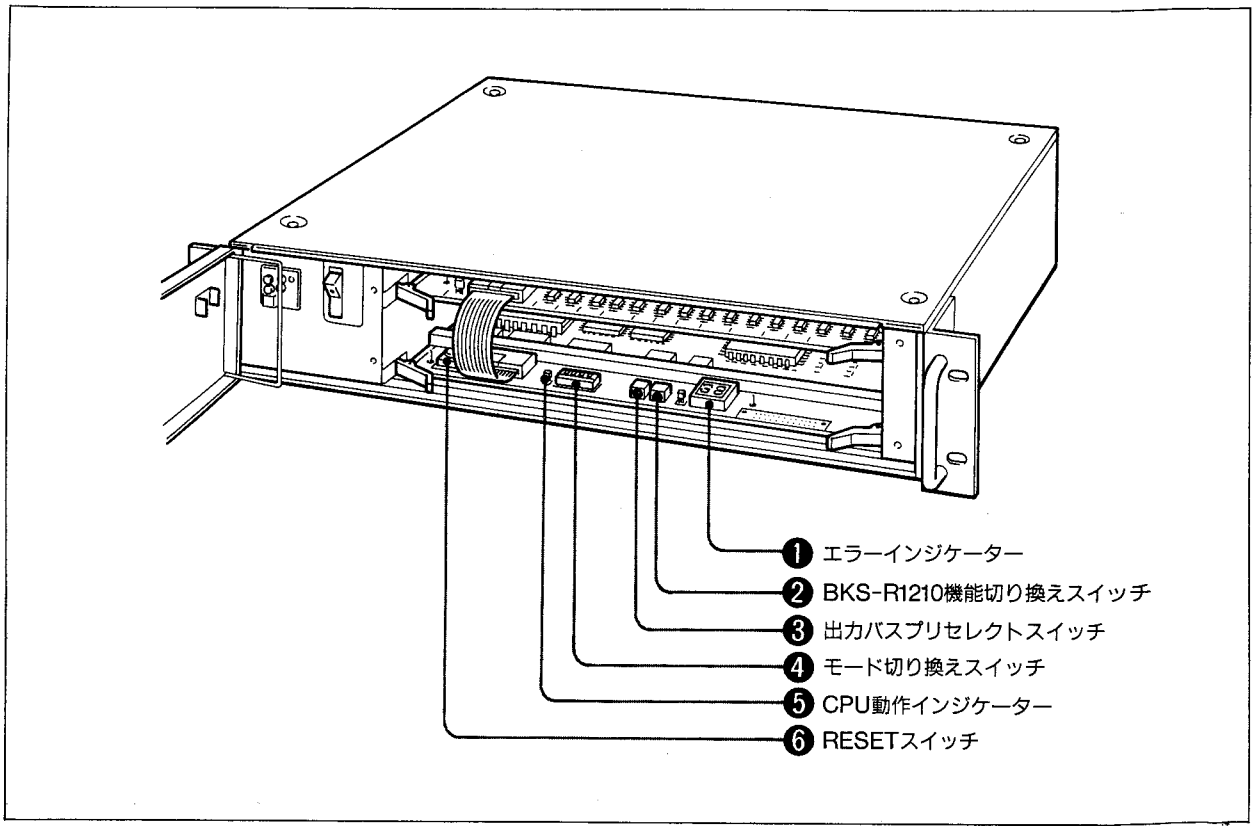
オーディオルーティングスイッチャーBVS-A1212や他のBVS-V1212、リモートコントロールパネルBKS-R1210などと接続します。

❾ AC IN（電源入力）コネクター

付属の電源コードにより、100～240VのAC電源に接続します。

内部基板

以下に、CPU-68基板上にあるスイッチとインジケーターの一部の概要を示します。
スイッチの設定の詳細については、メンテナンスマニュアルをご覧ください。



❶ エラーインジケーター

基板の挿入の仕方が適切でなかったり、基板上の回路に異常があったりすると、電源投入時またはリセット時にブザーが鳴るとともに、エラーインジケーターに1~2秒間エラーコードが表示されます。エラーコードの意味と対策については、「エラー表示と対策」の項をご覧ください。

❷ BKS-R1210機能切り換えスイッチ（S3）

リモートコントロールパネルBKS-R1210から本機を制御するモードを切り換えます。(本機のメンテナンスマニュアルとともに、BKS-R1210オペレーションマニュアルの「操作」も参照してください)

❸ 出力バスプリセレクトスイッチ（S2）

リモートコントロールパネルBKS-R1210から制御する出力バスを切り換えます。(本機のメンテナンスマニュアルとともに、BKS-R1210オペレーションマニュアルの「操作」も参照してください)

❹ モード切り換えスイッチ（S1）

1：電源投入時またはリセット時に、本機をテストモード、通常動作モードのいずれで動作させるかを選択します。

2：電源投入時またはリセット時に、クロスポイントの設定を初期化するか否かを選択します。

3、4、5、6：現在は未使用です。

7：REMOTE 3コネクターからステータス情報を返すか否かを選択します。

8：REMOTE 1、2コネクターから応答を返すか否かを選択します。

❺ CPU動作インジケーター（D16）

CPU動作中に点灯します。(色はライトブルー)

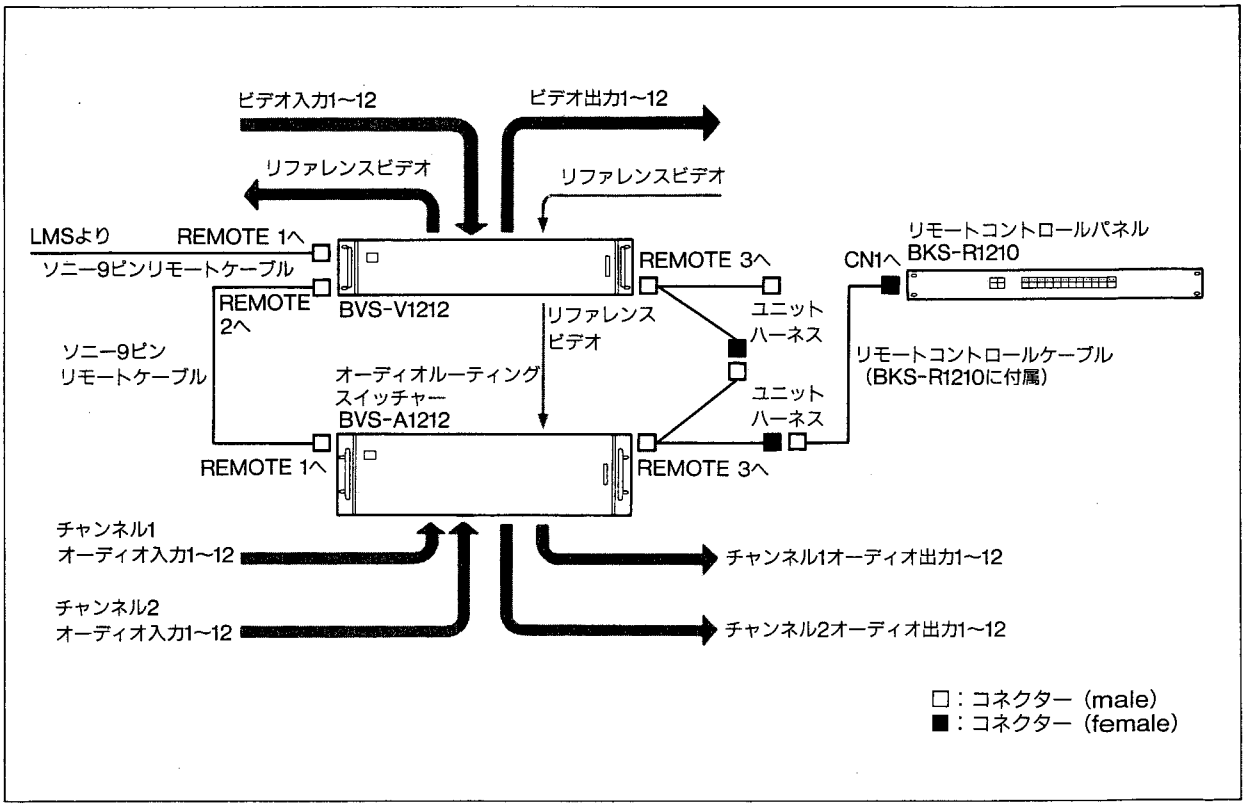
❻ RESET（リセット）スイッチ（S11）

押すとCPUがリセットされ、システムが初期化されます。

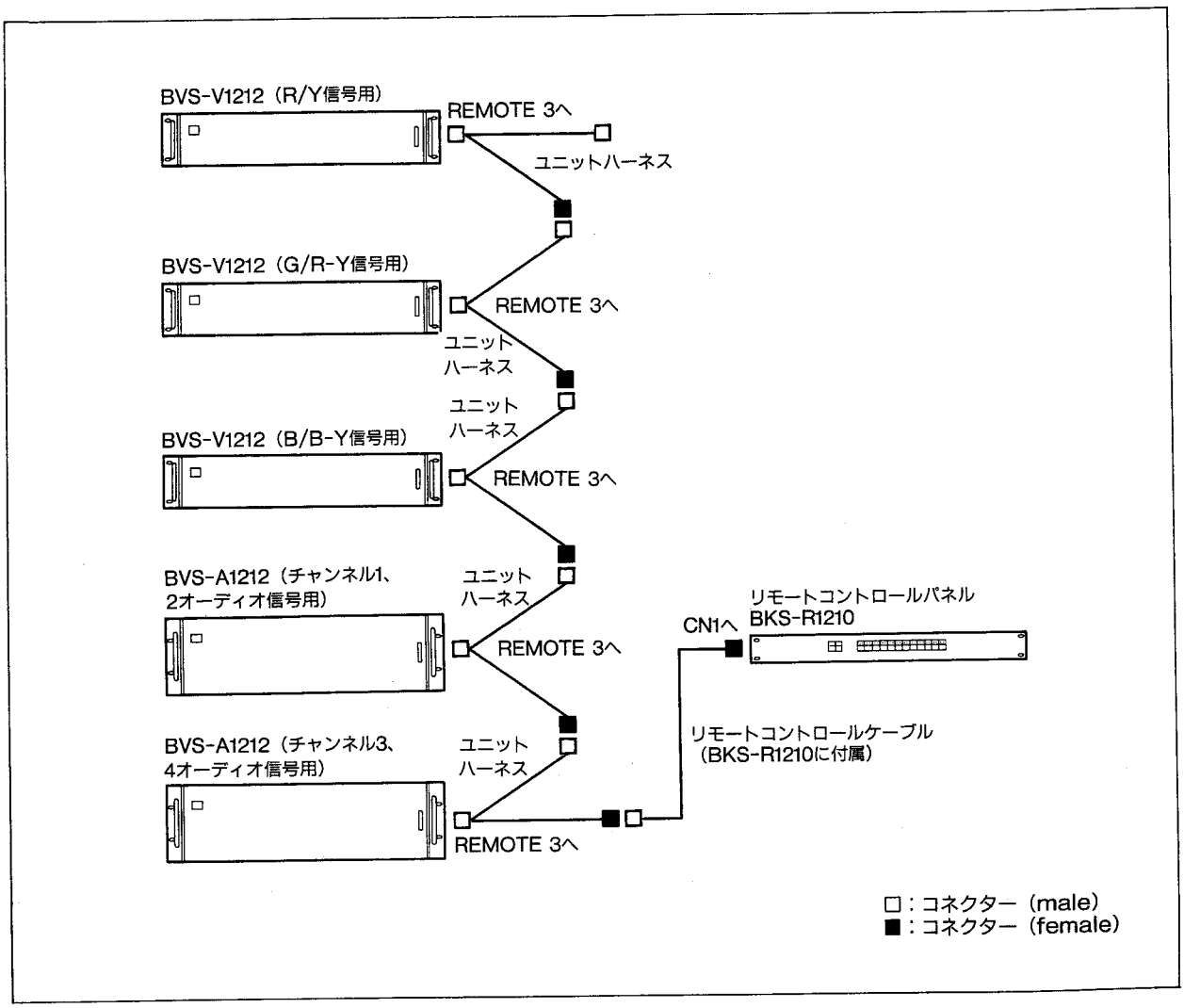
システム接続例

本機とオーディオルーティングスイッチャーBVS-A1212または他のBVS-V1212との接続には、それぞれに付属のユニットハーネスを使用します。
リモートコントロールパネルBKS-R1210からのコントロールの方法については、BKS-R1210のオペレーションマニュアルをご覧ください。

コンポジットビデオ/2チャンネルオーディオスイッチャーシステムを構成するには



コンポーネントビデオ/4チャンネルオーディオスイッチャーシステムを構成するには



ご注意

このシステムを構成するときは、各スイッチャーの内部スイッチを切り換える必要があります。詳しくはメンテナンスマニュアルをご覧ください。

エラー表示と対策

本機の電源を入れたとき、またはCPU-68基板上のRESETスイッチを押したとき、本機は簡単な自己診断を行います。
異常があるとブザーが鳴って、CPU-68基板上のエラーインジケーターが1～2秒間エラーコードを表示しますので、下表に示す対策を行ってください。
対策後は再び電源を入れてエラーにならないか確認してください。
異常がなければブザーは鳴らず、エラーインジケーターは"－－"を約1秒間、表示します。

ご注意

電源を入れたにもかかわらず、CPU-68基板上のライトブルーのランプ(CPU動作インジケーター)が点灯しないときは、電源を入れ直してみてください。それでもランプが点灯しない場合は、ソニーのサービス担当にご相談ください。

ブザーが鳴り続けるとき：CPU-68基板に異常があります。

エラーコード	異常（および異常箇所を確認するためのテスト）	対　策
H0、またはH1	クロスポイント切り換えパルスが出ない。（テストNo. 13）	ICE4、ICB7、ICB4の交換。
H2	ICE4、ICB3間の異常。（テストNo. 9）	ICE4、ICB3、ICC4の交換。
H3	REMOTE 3コネクター、ICH2間の異常。（テストNo. D）	ICE4、ICH2、ICD6、ICE6、BKS-R1210の交換/修理。
H4	ICE4、ICB6間の異常。（テストNo. C）	ICE4、ICB6、ICE6の交換。
H5	UA2スイッチの設定が適切でない。	正しく設定し直す。*
	ICH5が不良。（テストNo. 4）	ICH5の交換

＊BVS-V1212のUA2スイッチは、2ビット以上同時にONにはしないでください。

ブザーが約1秒間鳴ったとき：CPU-68基板またはVSW-21基板に異常があります。

エラーコード	異常（および異常箇所を確認するためのテスト）	対　策
H9	CPU-68基板のUA2（ユニットアドレス）スイッチの設定が適切でない。	正しく設定し直す。
	CPU-68基板のICH5の不良。（テストNo. 4）	ICH5の交換。
HA	VSW-21基板の差し込み不良。またはVSW-21基板とCPU-68基板間のハーネスの差し込み不良。	正しく差し込む。
	VSW-21基板のIC125の不良。	IC125の交換。

仕様

一般

電源	AC 100～240V、50/60Hz
消費電力	15W
動作温度	5°C～40°C
重量	7.1kg
外形寸法（幅/高さ/奥行き）	424×88×350mm

入出力コネクターと信号

ビデオ信号入力	BNC型(12) 1.0Vp-p、75Ω
ビデオ信号出力	BNC型（12系統×2）
モニター用ビデオ信号出力	BNC型(2)
リファレンスビデオ信号入力	BNC型(1) 1.0Vp-p、75Ω
リファレンスビデオ信号出力	BNC型(8)
リモートコントロール信号入力	D-SUB 25ピン(1) D-SUB 9ピン(2)、ループスルー接続可、 RS-422A規格準拠
AC電源入力	3ピンACコネクター(1)

性能

DG（1Vp-p、10～90%APL）	0.2%以下
DP（1Vp-p、10～90%APL）	0.2° 以下
周波数特性	±0.1dB（100kHz～6MHz）
	±0.3dB（6MHz～12MHz）
クロストーク	−50dB（5MHzにて、ワーストケース）
S/N	70dB以上（5MHz ローパス）
入力リターンロス	
プライマリー入力	42dB以上(5MHzにて)
リファレンスビデオ入力	42dB以上(5MHzにて)
クロスポイントディレイ	2入力間：±0.75° 以下（4.43MHzにて）
スキャター	2出力間：±1.5° 以下（4.43MHzにて）
スイッチングトランジェント	100mVp-p 以下
スイッチングステップ	±30mV以内
Kファクター（2Tパルス）	0.5%以下
チルト（ライン、フィールド）	1%以下
出力利得安定度	±0.1dB以内
出力リターンロス	42dB以上（5MHzにて）

付属品

電源コード(3)
プラグホルダー(1)
25ピン ユニットハーネス(1)
延長用ハーネス（20ピン）(1)
延長基板(1)
オペレーションマニュアル(1)
メンテナンスマニュアル(1)

関連製品

オーディオルーティングスイッチャーBVS-A1212
リモートコントロールパネルBKS-R1210
9ピンリモートコントロールケーブルRCC-5G/10G/50G

仕様および外観は、改良のため予告なく変更することがありますが、ご了承ください。

Overview

The BVS-V1212 is a video routing switcher using a matrix system. Under the control of an external controller such as an LMS (Library Management System) or the BKS-R1210 remote control panel (optional), the switcher routes an input video signal selected out of up to 12 to one or more output lines also selected out of 12. The switcher is also provided with a monitor output line, which allows any input or output signal to be monitored.

Two output connectors for each output line

The switcher is provided with two output connectors for each of the 12 output lines. The selected input signal is distributed to both connectors for the selected output line. In addition to the 24 (2 × 12) output connectors, a pair of monitor connectors are provided, through which can be taken out an input or output signal selected by the external controller.

Constituting a video-audio switching system together with the BVS-A1212

The switcher can make up, in combination with the BVS-A1212 audio routing switcher (optional), a video-audio switcher system which can be used to control either video or audio signal routing independently or the routing of both signals simultaneously.

Component video switching capability

Interconnecting three BVS-V1212 units gives you a system to switch component video signals (R/G/B or Y/R – Y/B – Y).

Serial/parallel communication capability

The switcher is provided with a Sony 9-pin remote control interface (conforming to the RS-422A standard), which you can use for serial remote control of the unit from an LMS, for example. It is also provided with a parallel communication interface which allows you to remotely control the unit from the BKS-R1210 remote control panel.

Reference video signal distribution circuit

The switcher contains a circuit to distribute the input reference video signal to 8 reference video output connectors. When the switcher is used with an LMS for example, it can supply the same reference signal to up to 8 VTRs or other units of video equipment.

Crosspoint memorization

When the AC power supply is interrupted, the switcher can retain the last crosspoint selection in memory for at least one month provided the power is continuously supplied for more than 10 minutes before the interruption.

Mountable on standard rack

The switcher can be mounted on a 19-inch EIA standard rack. (It is 2 rack units high.)

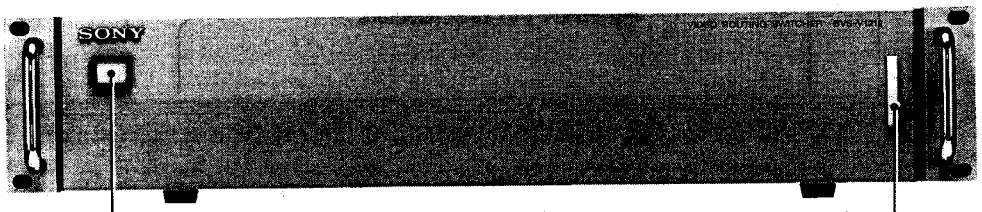
Front access for maintenance

You can take out the internal circuit boards after opening the front panel. This allows you to carry out maintenance operation without demounting the switcher cabinet from the rack.

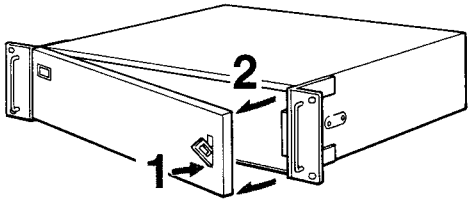
Location and Function of Parts

Front Panel and Power Switch

Front panel

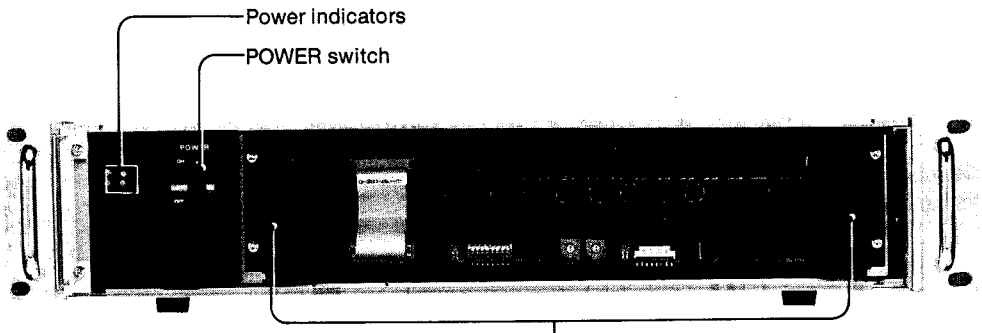


How to open the front panel

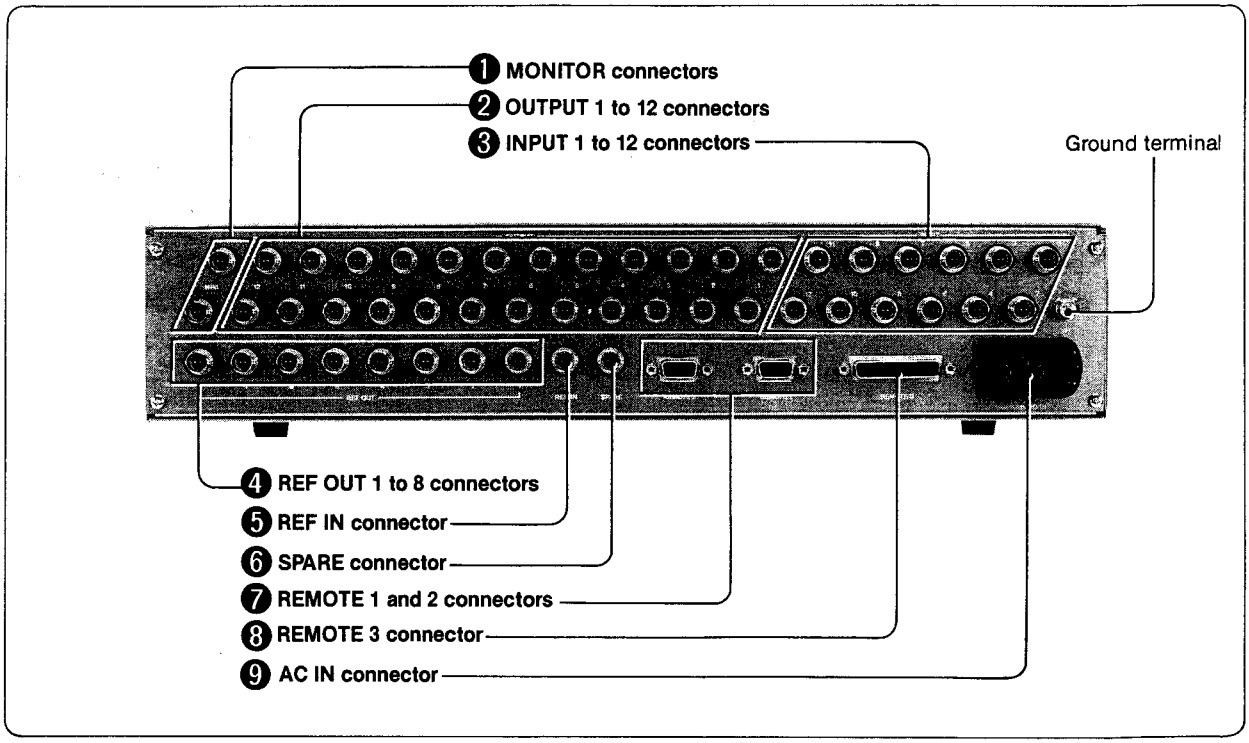


Push in the lower part of the lock lever and pull the lever top.

Power switch



Rear Panel



❶ MONITOR connectors (BNC type)
The two connectors supply the same input or output video signal when the appropriate crosspoint is selected by remote control.

❷ OUTPUT 1 to 12 (video output 1 to 12) connectors (BNC type)
Each of the 12 pairs of connectors supplies the same input signal when the appropriate crosspoint is selected by remote control.

❸ INPUT 1 to 12 (video input 1 to 12) connectors (BNC type)
Connect video signals. These connectors are internally terminated in 75 ohms.

❹ REF OUT 1 to 8 (reference video output 1 to 8) connectors (BNC type)
The pedestal level of the reference video signal connected to the REF IN connector ❺ is clamped and the signal is distributed to 8 lines before output from these 8 connectors.

❺ REF IN (reference video input) connector (BNC type)
Connect a reference video signal. This connector is internally terminated in 75 ohms.

❻ SPARE connector (BNC type)
Not used.

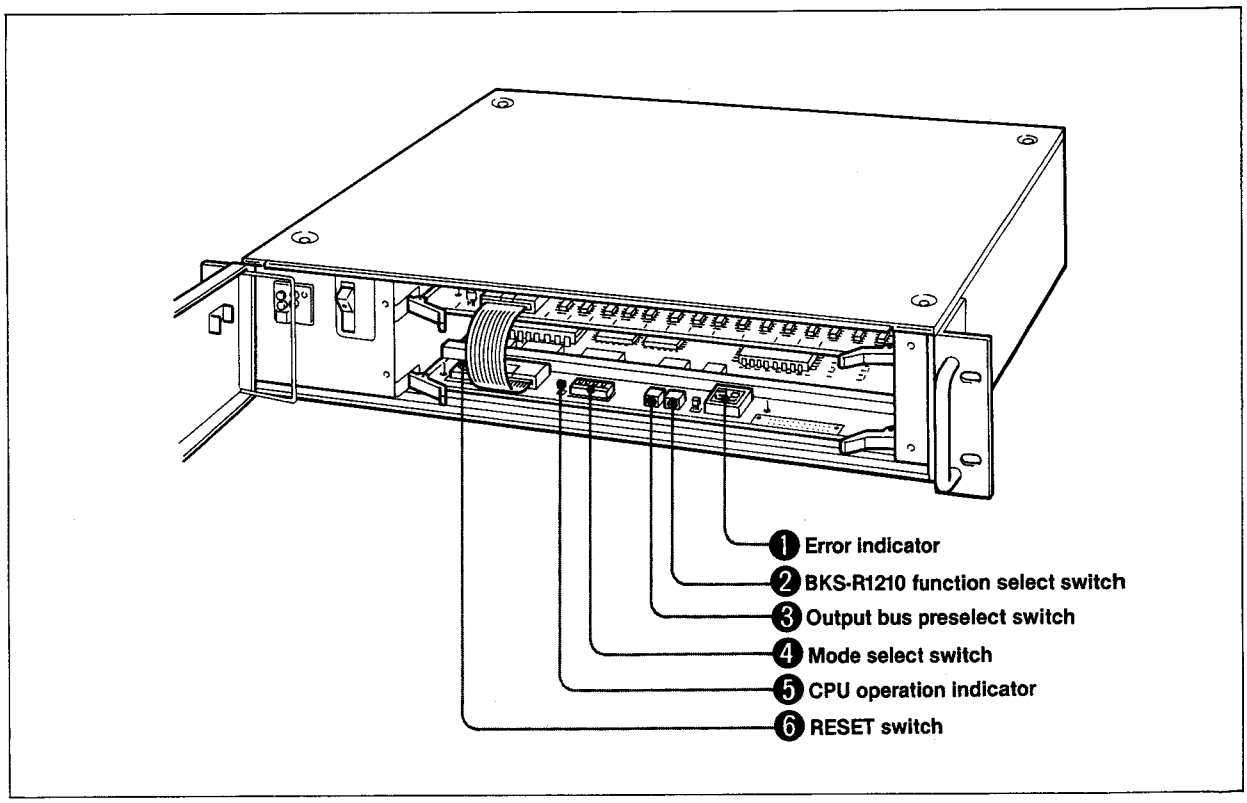
❼ REMOTE 1 and 2 connectors (D-SUB 9-pin)
Either one of the two connectors can be used to connect the switcher to an external controller by a Sony 9-pin remote control cable.
The two connectors are designed to form a loop-through connection. When you connect one of them to an external controller and the other one to another BVS-V1212 or a BVS-A1212 audio routing switcher, you can simultaneously control the switchers from the same external controller. When you do not use the other connector for loop-through connection, be sure to terminate it using a jumper provided on an internal circuit board. (For further details, refer to the maintenance manual.)

❽ REMOTE 3 connector (D-SUB 25-pin)
Used to connect the switcher to the BVS-A1212, another unit of BVS-V1212, or the BKS-R1210 remote control panel.

❾ AC IN (AC power input) connector
Connect to an AC outlet using the AC power cord supplied with the switcher. The acceptable source voltage range is 100 to 240V AC.

Internal Board

The following is brief descriptions of some switches and indicators located on the CPU-68 board.
For details on how to use the switches, refer to the maintenance manual.



1 Error indicator
If a problem or erroneous condition exists on internal boards, a buzzer in the switcher beeps and this error indicator displays the corresponding error code for one or two seconds when the switcher is turned on or the CPU is reset. For more details, refer to "Error Indication."

2 BKS-R1210 function select switch (S3)
Used to select the mode of controlling the switcher from the BKS-R1210 remote control panel. (Besides the maintenance manual for the switcher, refer to the section titled "Operation" of the BKS-R1210 operation manual.)

❸ Output bus preselect switch (S2)
Used to preselect one or more output buses to be controlled from the BKS-R1210. (Besides the maintenance manual for the switcher, refer to the section titled "Operation" of the BKS-R1210 operation manual.)

❹ Mode select switch (S1)
1: Selects whether the switcher is to enter the test mode or normal operation mode when it is turned on or when the CPU is reset.
2: Select whether the last crosspoint selection is to be initialized or not when the switcher is turned on or when the CPU is reset.
3, 4, 5, 6: Not used.
7: Selects whether status data is to be returned or not from the REMOTE 3 connector.
8: Selects whether a response is to be returned or not from the REMOTE 1 or 2 connector.

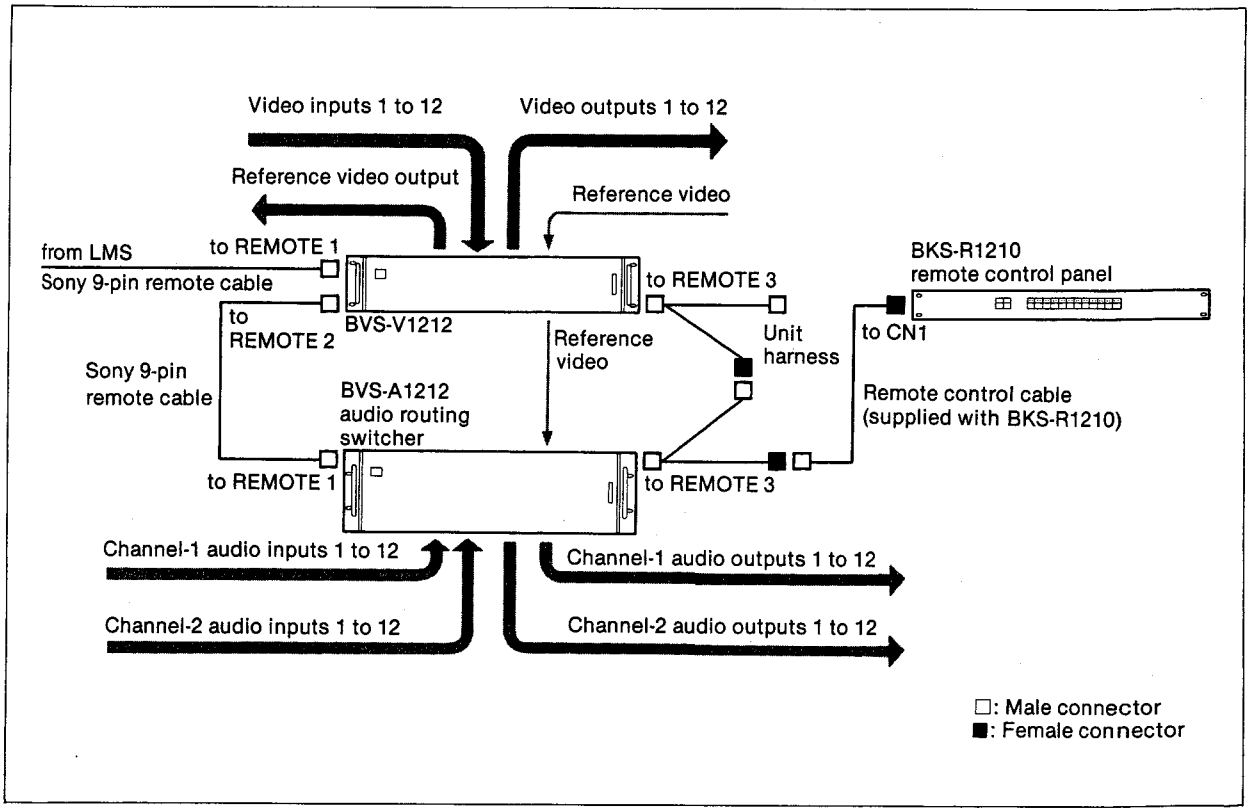
❺ CPU operation indicator (D16)
Lights (in light blue) when the CPU operates normally.

❻ RESET switch (S11)
Press to reset the CPU and initialize the system.

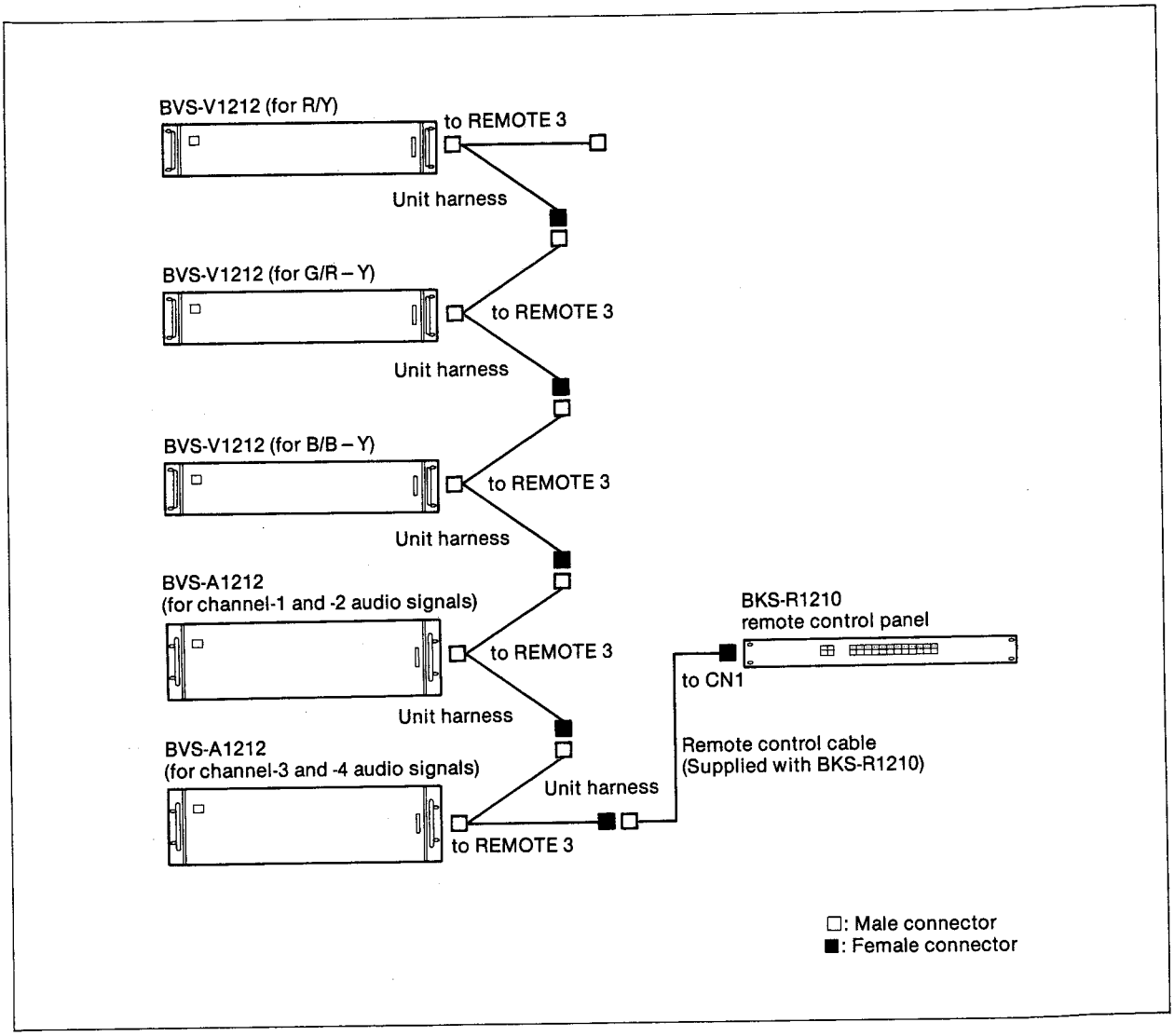
System Connections

To connect the switcher to the BVS-A1212 audio routing switcher or another unit of BVS-V1212, use the unit harness supplied with the unit to be connected.

Composite video/2-channel audio switcher system



Component video/4-channel audio switcher system



Note

When configuring this system, it is necessary to change the settings of internal switches of each switcher. Refer to the maintenance manual for further details.

Error Indication

Each time the switcher is turned on or the RESET switch on the CPU-68 board is pressed, the switcher carries out a self-diagnosis test.
If the switcher detects a problem or error in this test, a buzzer beeps and the error indicator on the CPU-68 board displays the corresponding error code for one or two second. In that case, see the remedy in the following tables.
After performing the remedy, turn on the switcher again to check if no error indication is given any more.
If no problem is detected, the buzzer does not beep and the error indicator displays "--" for approx. 1 second before the switcher enters the normal operation mode.

Note
When you turn on the switcher, the CPU operation indicator on the CPU-68 board will light. If the indicator does not light, turn off the switcher and then turn it on again. If the indicator will still not light, contact the Sony representative.

When the buzzer does not stop beeping: it indicates that a problem has occurred with the CPU-68 board.

Error code	Possible problem (test for locating the problem)	Remedy
H0 or H1	No crosspoint select pulse is generated. (Test No. 13)	Replace ICE4/ ICB7/ICB4.
H2	A problem has occurred between ICE4 and ICB3, both inclusive. (Test No. 9)	Replace ICE4/ ICB3/ICC4.
H3	A problem has occurred between REMOTE 3 connector and ICH2, both inclusive. (Test No. D)	Replace/repair ICE4/ICH2/ICD6/ ICE6/BKS-R1210.
H4	A problem has occurred between ICE4 and ICB6, both inclusive. (Test No. C)	Replace ICE4/ ICB6/ICE6.
H5	The setting of UA2 (unit address) switch is not proper.	Set the switch properly.*
	ICH5 has been damaged. (Test No. 4)	Replace ICH5.

*With respect to the BVS-V1212's UA2 switch, you must not set more than one bit to ON.

When the buzzer beeps for approx. 1 second: it indicates that a problem has occurred with the CPU-68/VSW-21 board.

Error code	Possible problem (test for locating the problem)	Remedy
H9	The setting of UA2 (unit address) switch on CPU-68 board is not proper.	Set the switch properly.
	ICH5 on CPU-68 board has been damaged. (Test No. 4)	Replace ICH5.
HA	VSW-21 board or the harness between VSW-21 and CPU-68 board has not been inserted properly.	Insert the board or harness properly.
	IC125 on CPU-68 board has been damaged.	Replace IC125.

Specifications

General

Power requirements	100 to 240 V AC, 50/60 Hz
Power consumption	15 W
Operating temperature	5°C to 40°C (41°F to 104°F)
Weight	7.1 kg (15 lb 10 oz)
Dimensions (w/h/d)	424 × 88 × 350 mm ($16\frac{3}{4} \times 3\frac{1}{2} \times 13\frac{7}{8}$ inches)

Input/output connectors and signals

Video signal input	BNC type (12) 1.0 Vp-p
Video signal output	BNC type (12 pairs)
Video signal output (for monitoring)	BNC type (1 pair)
Reference video signal input	BNC type (2), one for loop-through connection 1.0 Vp-p
Reference video output	BNC type (8)
Remote control signal input	D-SUB 25-pin (1) D-SUB 9-pin (2), one for loop-through connection; conforming to the RS-422A standard
AC power input	3-pin connector (1)

Performance

DG (1 Vp-p, 10 to 90% APL)	Less than 0.2%
DP (1 Vp-p, 10 to 90% APL)	Less than 0.2°
Frequency response	±0.1 dB (100 kHz to 6 MHz) ±0.3 dB (6 MHz to 12 MHz)
Crosstalk	−50 dB (at 5 MHz, worst case)
Signal-to-noise ratio	More than 70 dB (5 MHz low-pass)
Input return loss	Primary input: more than 42 dB (at 5 MHz) Reference video input: more than 42 dB (at 5 MHz)
Crosspoint delay scatter	Between two inputs: within ±0.75° (at 4.43 MHz) Between two outputs: within ±1.5° (at 4.43 MHz)
Switching transient	Less than100mVp-p
Switching step	within ±30mV
K factor (2T pulse)	Less than 0.5%
Tilt (line and field)	Less than 1.0%
Output gain stability	±0.1 dB
Output return loss	More than 42 dB (at 5 MHz)

Accessories supplied

AC power cords (3)
Plug holder (1)
Unit harness (D-SUB 25-pin) (1)
Extension harness (20-pin) (1)
Extension board (1)
Operation manual (1)
Maintenance manual (1)

Optional equipment

BVS-A1212 audio routing switcher
BKS-R1210 remote control panel
RCC-5G/RCC-10G/RCC-30G remote control cable (9-pin)

Design and specifications are subject to change without notice.

Aperçu

Le BVS-V1212 est un sélecteur vidéo à système matriciel, qui achemine un signal d'entrée vidéo sélectionné parmi 12 au plus à des lignes de sortie sélectionnées parmi 12 au plus, commandé d'un contrôleur extérieur, tel que le LMS (Library Management System) ou le panneau de télécommande BKS-R1210 (en option).
Ce sélecteur est également pourvu d'une ligne de sortie moniteur, qui permet la surveillance de tout signal d'entrée ou de sortie.

Deux connecteurs de sortie pour chaque ligne de sortie

Cet appareil est pourvu de deux connecteurs de sortie pour chacune des 12 lignes de sortie. Le signal d'entrée sélectionné est délivré aux deux connecteurs de la ligne de sortie choisie. Outre ces 24 (12 × 2) connecteurs de sortie, l'appareil possède une paire de connecteurs moniteur qui peuvent délivrer un signal d'entrée ou de sortie sélectionné au contrôleur extérieur.

Constitution d'un système de sélection audio-vidéo avec le BVS-A1212

Combiné à un sélecteur audio BVS-A1212 (en option), cet appareil peut constituer un système de sélection audio-vidéo utilisable pour le contrôle indépendant du signal audio ou vidéo ou l'acheminement simultané des deux.

Sélection de signal vidéo composant possible

L'interconnexion de trois BVS-V1212 crée un système de sélection de signaux vidéo composants (R/G/B ou Y/R – Y/B – Y).

Communication sérielle/parallèle

L'interface de télécommande 9 broches Sony (de norme RS-422A) de l'appareil peut servir à sa télécommande sérielle à partir d'un LMS par exemple. De plus, son interface de communication parallèle permet sa commande à distance du panneau de télécommande BKS-R1210.

Circuit de distribution de signal de référence vidéo

Ce sélecteur intègre un circuit distribuant le signal d'entrée de référence vidéo à 8 connecteurs de sortie de référence vidéo. Utilisé avec le LMS, il peut délivrer le même signal de référence à 8 magnétoscopes ou autres appareils vidéo au maximum.

Mémorisation de foyer

Quand l'alimentation secteur est coupée, l'appareil maintient en mémoire au moins un mois le dernier foyer choisi, à condition qu'il ait été sous tension en continu durant plus de 10 minutes avant la coupure de l'alimentation.

Encastrable dans un rack standard

Ce sélecteur peut s'encastrer dans un rack EIA de 19 pouces. (Sa hauteur équivaut à celle de 2 cases.)

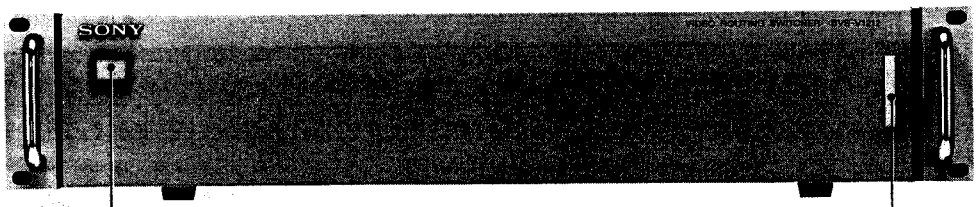
Accès frontal pratique pour l'entretien

Les circuits imprimés internes peuvent être déposés après ouverture du panneau avant. Cela permet d'effectuer l'entretien sans retirer le coffret de l'appareil du rack.

Localisation et fonction des organes

Panneau avant et interrupteur d'alimentation

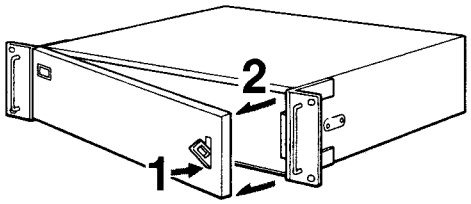
Panneau avant



Fenêtre indicatrice d'alimentation

Levier de blocage de panneau avant

Ouverture du panneau avant

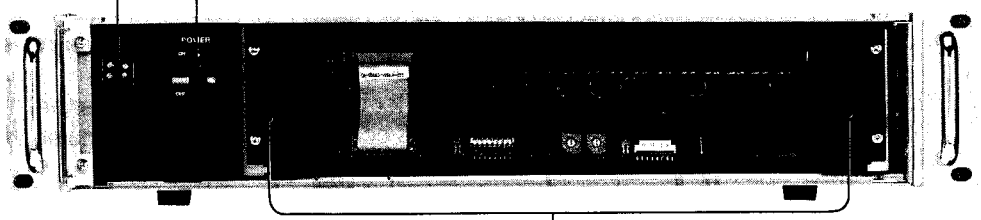


Appuyer sur le bas du levier de blocage, puis tirer sur le haut.

Interrupteur d'alimentation

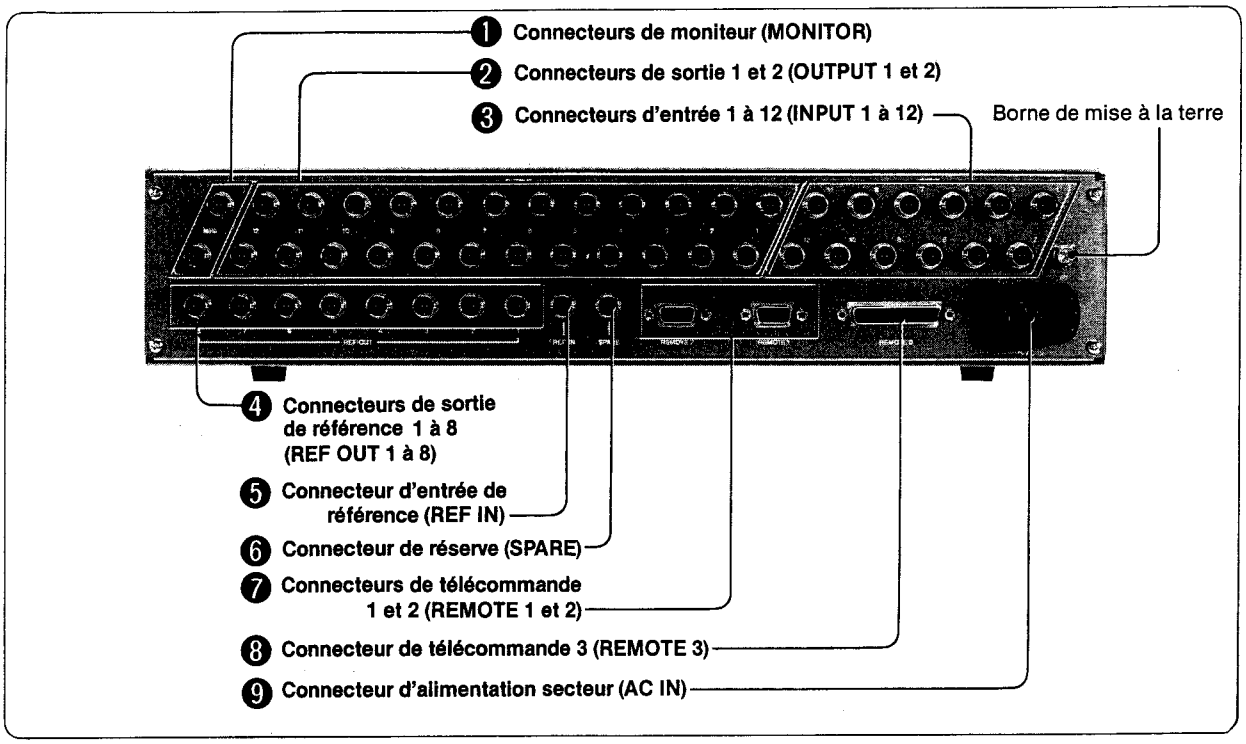
Indicateurs d'alimentation

Interrupteur d'alimentation (POWER)



Supports de plaquettes de circuit
(Retirer ces supports après l'installation de l'appareil.)

Panneau arrière



❶ Connecteurs de moniteur (MONITOR) (type BNC)
Ces deux connecteurs délivrent le même signal vidéo d'entrée ou de sortie quand le foyer adéquat a été choisi par commande à distance.

❷ Connecteurs de sortie vidéo 1 à 12 (OUTPUT 1 à 12) (type BNC)
Chacune des 12 paires de connecteurs délivre le même signal d'entrée quand le foyer adéquat a été choisi par commande à distance.

❸ Connecteurs d'entrée vidéo 1 à 12 (INPUT 1 à 12) (type BNC)
Y amener des signaux vidéo. Ces connecteurs sont à terminaison interne de 75 ohms.

❹ Connecteurs de sortie vidéo de référence 1 à 8 (REF OUT 1 à 8) (type BNC)
Le niveau du signal vidéo de référence amené au connecteur REF IN ❺ est limité à la base fixe et le signal est distribué aux 8 lignes avant d'être délivré par ces 8 connecteurs.

❺ Connecteur d'entrée vidéo de référence (REF IN) (type BNC)
Relier un signal vidéo de référence.
Ces connecteurs sont à terminaison interne de 75 ohms.

❻ Connecteur de réserve (SPARE) (type BNC)
Inutilisé.

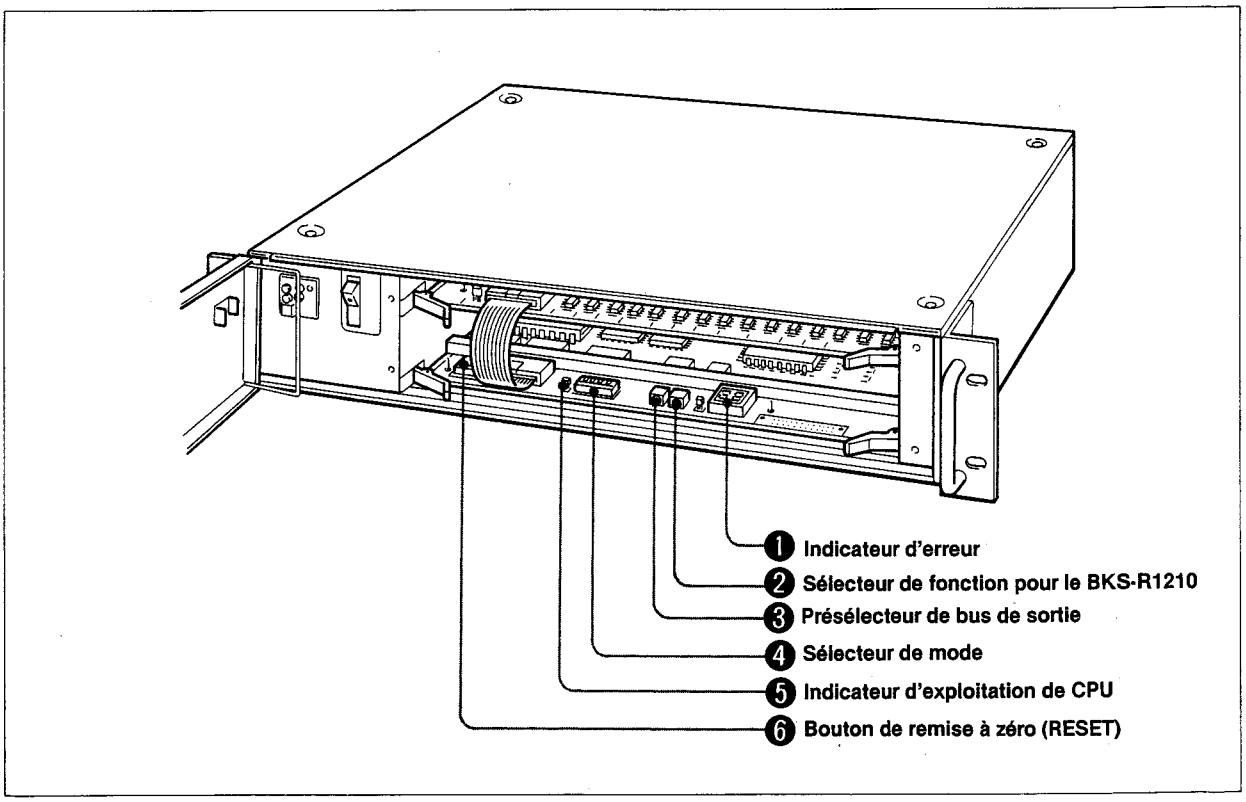
❼ Connecteurs de télécommande 1 et 2 (REMOTE 1 et 2) (type D-SUB 9 broches)
L'un des deux connecteurs peut servir à relier l'appareil à un contrôleur extérieur à l'aide du câble de télécommande 9 broches Sony.
Les deux connecteurs forment une connexion en boucle. Si l'un d'entre eux est relié à un contrôleur extérieur et l'autre à un second BVS-V1212 ou à un sélecteur audio BVS-A1212, les deux sélecteurs peuvent être commandés simultanément d'un même contrôleur extérieur.
Si l'autre connecteur ne doit pas servir dans une connexion en boucle, le terminer à l'aide d'un élément de fermeture de circuit sur la plaquette interne. (Se reporter au mode d'entretien pour les détails.)

❽ Connecteur de télécommande 3 (REMOTE 3) (type D-SUB 25 broches)
Sert à relier l'appareil à un BVS-A1212, un second BVS-V1212 ou au panneau de télécommande BKS-R1210.

❾ Connecteur d'alimentation secteur (AC IN)
Relier à une prise secteur à l'aide du cordon d'alimentation fourni. La gamme de tensions admissibles est de 100 à 240 V.

Plaquette de circuit interne

Voici maintenant une description abrégée de certains sélecteurs et indicateurs de la plaquette CPU-68. Se reporter au mode d'entretien pour de plus amples informations sur l'usage de ces sélecteurs.



❶ Indicateur d'erreur
En cas de problème ou une situation erronnée sur les plaquettes internes, un avertisseur sonore le signale et cet indicateur affiche le code d'erreur correspondant durant une à deux secondes lors de la mise sous tension de l'appareil ou de l'initialisation du CPU. Se reporter au passage "Indication d'erreur" pour de plus amples détails.

❷ Sélecteur de fonction pour le BKS-R1210 (S3)
Sert à sélectionner le mode de contrôle de l'appareil à partir du panneau de télécommande BKS-R1210. (En plus du mode d'entretien de l'appareil, se reporter à la partie "Fonctionnement" du mode d'emploi du BKS-R1210.)

❸ Présélecteur de bus de sortie (S2)
Sert à présélectionner un ou plusieurs bus de sortie à contrôler du BKS-R1210. (En plus du mode d'entretien de l'appareil, se reporter à la partie "Fonctionnement" du mode d'emploi du BKS-R1210.)

❹ Sélecteur de mode (S1)
1: Choisit si l'appareil doit entrer en mode test ou en mode d'exploitation normale à sa mise sous tension ou à la remise à zéro du CPU.
2: Choisit si le dernier foyer sélectionné doit être initialisé ou non à la mise sous tension de l'appareil ou à la remise à zéro du CPU.
3, 4, 5, 6: Inutilisés
7: Choisit si la donnée d'état doit être renvoyée ou non du connecteur REMOTE 3.
8: Choisit si une réponse doit être renvoyée ou non du connecteur REMOTE 1 ou 2.

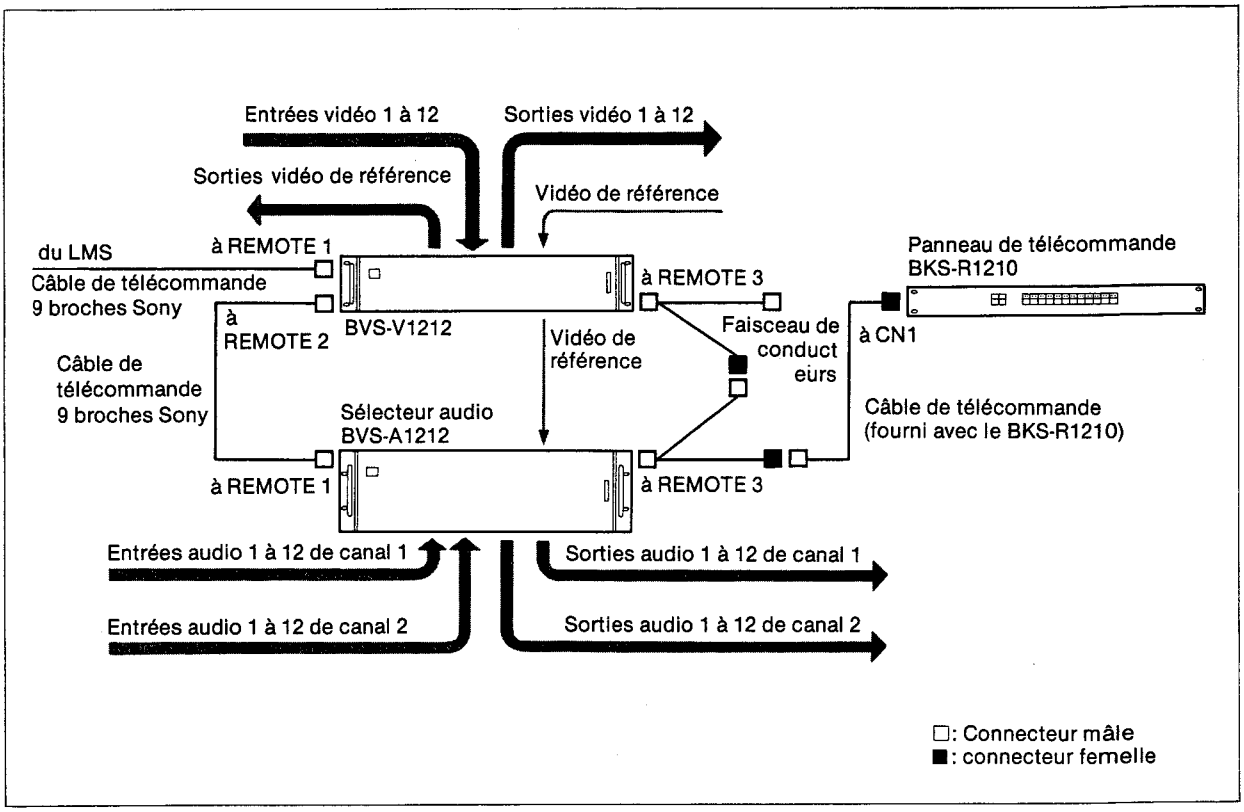
❺ Indicateur d'exploitation du CPU (D16) (bleu)
S'allume quand le CPU fonctionne normalement.

❻ Bouton de remise à zéro (RESET) (S11)
Presser pour remettre le CPU à zéro et initialiser le système.

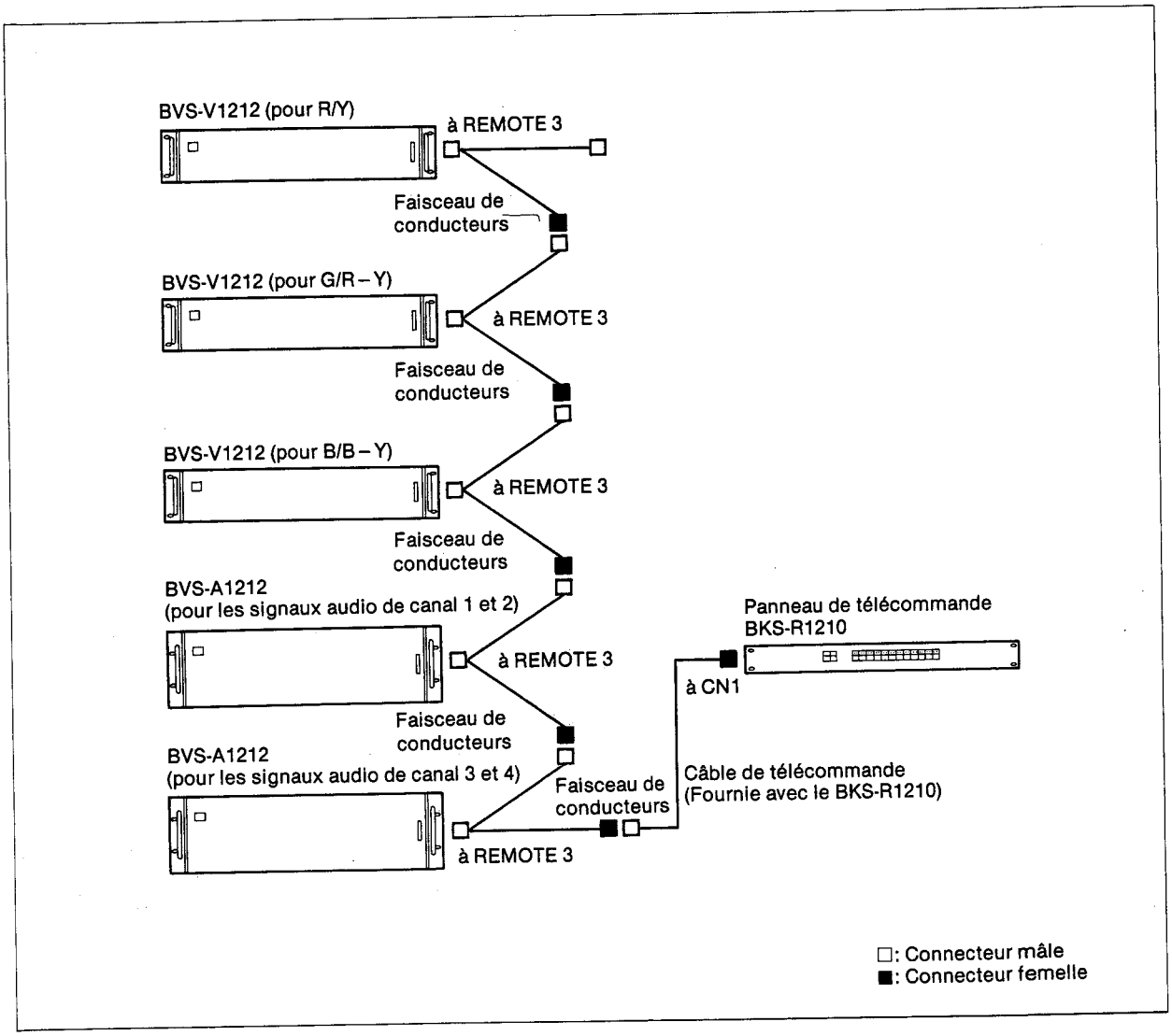
Connexions de système

Pour connecter l'appareil à un sélecteur audio BVS-A1212 ou à un second BVS-V1212, se servir du faisceau de conducteurs fourni avec chacun des appareils.

Système de sélecteur vidéo composite/audio 2 canaux



Systéme de sélection vidéo composant/audio 4 canaux



Remarque

Dans cette configuration de système, le réglage des sélecteurs internes de l'appareil doit être modifié. Se reporter au mode d'entretien pour les détails.

Indication d'erreur

A chaque mise sous tension de l'appareil ou pression du bouton RESET de la plaquette CPU-68, l'appareil effectue un test d'auto-diagnostic.
En cas de détection d'un problème ou d'une erreur lors de ce test, un avertisseur sonore retentit et l'indicateur d'erreur de la plaquette CPU-68 affiche le code d'erreur correspondant durant une à deux secondes. Dans ce cas, rechercher la solution dans les tableaux ci-après.
Une fois le remède conseillé apporté, mettre l'appareil sous tension et vérifier qu'il n'y a plus d'indication d'erreur.
Si aucun problème n'est détecté, l'avertisseur sonore ne s'active pas et l'indicateur d'erreur affiche "--" durant environ 1 seconde avant que l'appareil n'entre en mode d'exploitation normale.

Remarque

Lors de la mise sous tension de l'appareil, l'indicateur d'exploitation CPU sur la plaquette CPU-68 s'allumera. Si ce n'est pas le cas, couper l'alimentation, puis la remettre une seconde fois. S'il ne s'allume toujours pas, s'adresser à son concessionnaire Sony le plus proche.

L'avertisseur sonore ne cesse pas de retentir: cela indique un problème au niveau de la plaquette CPU-68.

Code d'erreur	Problème possible (test de localisation du problème)	Solution
H0 ou H1	Pas de génération d'impulsion de sélection de foyer (test n° 13)	Remplacer ICE4/ICB7/ICB4.
H2	Problème entre ICE4 et ICB3, les deux compris (test n° 9)	Remplacer ICE4/ICB3/ICC4.
H3	Problème entre le connecteur REMOTE 3 et ICH2, les deux compris (test n° D)	Remplacer/réparer ICE4/ICH2/ICD6/ ICE6/BKS-R1210
H4	Problème entre ICE4 et ICB6, les deux compris (test n° C)	Remplacer ICE4/ICB6/ICE6.
H5	Réglage incorrect de sélecteur UA2 (sélecteur adresse)	Régler correctement.*
	ICH5 est endommagé (test n°4)	Remplacer ICH5.

* Au sélecteur UA2 du BVS-V1212, ne régler qu'un seul élément à ON.

L'avertisseur sonore retentit environ 1 seconde: cela indique un problème au niveau de la plaquette CPU-68/VSW-21.

Code d'erreur	Problème possible (test de localisation du problème)	Solution
H9	Réglage incorrect de sélecteur UA2 sur la plaquette CPU-68.	Régler correctement.
	ICH5 sur la plaquette CPU-68 est endommagé (test n° 4)	Remplacer ICH5.
HA	Insertion incorrecte de la plaquette VSW-21 ou du faisceau entre VSW-21 et la plaquette CPU-68.	L'insérer correctement.
	IC125 sur la plaquette CPU-68 est endommagé.	Remplacer IC125.

Spécifications

Généralités

Alimentation	Secteur de 100 à 240 V, 50/60 Hz
Consommation	15 W
Température de fonctionnement	5 à 40°C (41 à 104°F)
Poids	7,1 kg (15 livres 10 onces)
Dimensions (l/h/p)	424 × 88 × 350 mm ($16\frac{3}{4} \times 3\frac{1}{2} \times 13\frac{7}{8}$ pouces)

Connecteurs d'entrée/sortie et signaux

Entrée de signal vidéo
Type BNC (12)
1,0 Vc-c, 75Ω

Sortie de signal vidéo
Type BNC (12 paires)

Sortie de signal vidéo (surveillance)
Type BNC (1 paire)

Entrée de signal vidéo de référence
Type BNC (2), un pour la connexion en boucle
1,0 Vc-c

Sortie vidéo de référence
Type BNC (8)

Entrée de signal de télécommande
D-SUB 25 broches (1)
D-SUB 9 broches (2), un pour la connexion en boucle; norme RS-422A

Alimentation secteur
Connecteur 3 broches (1)

Performance

DG (1 Vc-c, 10 à 90% APL)
Inférieur à 0,2°

DP (1 Vc-c, 10 à 90% APL)
Inférieur à 0,2%

Réponse de fréquence
±0,1 dB (100 kHz à 6 MHz)
±0,3 dB (6 à 12 MHz)

Diaphonie −50 dB (à 5 MHz, au pire)

Rapport signal/bruit Supérieur à 70 dB (passe-bas 5 MHz)

Atténuation d'entrée Entrée primaire: supérieure à 42 dB (à 5 MHz)
Entrée vidéo de référence: supérieure à 42 dB (à 5 MHz)

Diffusion à retard de foyer
Entre deux entrées: inférieur à ±0,75° (à 4,43 MHz)
Entre deux sorties: inférieur à ±1,5° (à 4,43 MHz)

Passage de sélection
Inférieur à 100mVc-c
Facteur K (impulsion 2T)
Inférieur à 0,5%
Inclinaison (ligne et champ)
Inférieur à 1%
Stabilité du gain de sortie
±0,1 dB
Atténuation de sortie
Supérieure à 42 dB (à 5 MHz)

Accessoires fournis

Cordons d'alimentation (3)
Porte-fiche (1)
Faisceau de conducteurs (D-SUB 25 broches) (1)
Faisceau de prolongation (20 broches) (1)
Carte d'extension (1)
Mode d'emploi (1)
Mode d'entretien (1)

Equipement en option

Sélecteur audio BVS-A1212
Panneau de télécommande BKS-R1210
Câble de télécommande 9 broches RCC-5G/RCC-10G/RCC-30G

Conception et spécifications sont sujettes à modification sans préavis.

Überblick

Der Video-Schalter BVS-V1212 arbeitet nach dem Matrix-System. Er verteilt bis zu 12 Video-Eingangskanäle an bis zu 12 Ausgangskanäle. Die Bedienung erfolgt entweder über ein externes Steuergerät wie ein LMS (Library Management System) oder die Fernbedienungseinheit BKS-R1210 (Sonderzubehör). Ein ebenfalls vorgesehener Monitor-Ausgang ermöglicht die Überwachung jedes beliebigen Eingangs- oder Ausgangssignals.

Zwei Anschlüsse für jeden Ausgang

Jeder der 12 Ausgänge des BVS-V1212 besitzt zwei Anschlüsse. Das gewählte Eingangssignal wird für den gewählten Ausgangskanal an beide dieser Anschlüsse geführt. Zusätzlich zu den 24 (2 × 12) Ausgängen ist ein Paar Monitor-Ausgänge vorgesehen, über die ein Eingangs- oder Ausgangssignal ausgegeben werden kann, das über ein externes Steuergerät gewählt wurde.

Video/Audio-Schalter-System in Kombination mit dem BVS-A1212

In Kombination mit dem Audio-Schalter BVS-A1212 (Sonderzubehör) entsteht ein Video/Audio-Schalter-System, das die unabhängige oder simultane Steuerung der Video- und Audiokanalverteilung ermöglicht.

Komponenten-Video-Schaltung möglich

Der Zusammenschluß von drei BVS-V1212 ergibt ein System zur Umschaltung der Komponenten-Videosignale (R/G/B oder Y/R – Y/B – Y).

Parallele und serielle Schnittstellen

Über ein serielles 9pol Sony-Fernbedienungs-Interface (gemäß RS-422A-Norm) ist Fernbedienung über ein LMS usw. möglich. Ein Parallel-Interface für den Anschluß einer Fernbedienungseinheit BKS-R1210 ist ebenfalls vorgesehen.

Referenz-Videosignal-Verteilung

Eine eingebaute Schaltung ermöglicht die Verteilung des Referenz-Video-Eingangssignals an bis zu 8 Referenzausgänge. Beim Arbeiten mit einem LMS beispielsweise kann das gleiche Referenzsignal an bis zu 8 Videorecorder oder andere Videogeräte geführt werden.

Kreuzpunkt-Speicherschutz

Bei Unterbrechung der Spannungsversorgung bleibt die letzte Kreuzpunkt-Verteilerwahl bis zu einen Monat lang gespeichert, vorausgesetzt, daß der BVS-V1212 mindestens 10 Minuten lang vor dem Stromausfall eingeschaltet war.

Einbau in 19-Zoll-Normgestell

Der Einbau in ein 19-Zoll-Gestell der EIA-Norm ist möglich. Der BVS-V1212 besitzt doppelte Einbauhöhe.

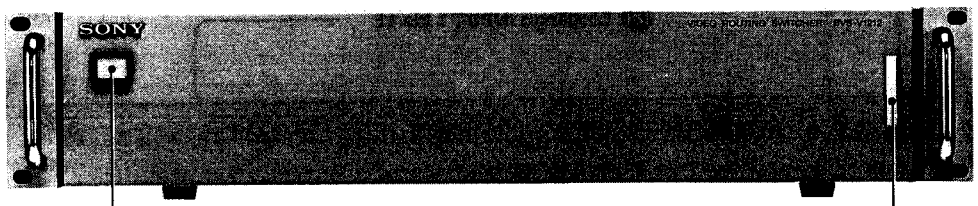
Wartungsfreundlich

Bei Öffnen der Frontplatte und Entfernen der Innenplatte ist bequemer Zugriff auf die internen Schaltplatten möglich. Für Wartungsarbeiten braucht der BVS-V1212 nicht aus dem Normgestell ausgebaut zu werden.

Lage und Funktion der Teile und Bedienungselemente

Frontplatte und Netzschalter

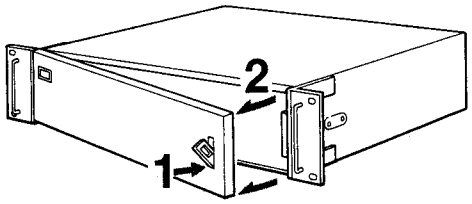
Frontplatte



Netzanzeige-Fenster

Frontplatten-Verriegelungshebel

Öffnen der Frontplatte

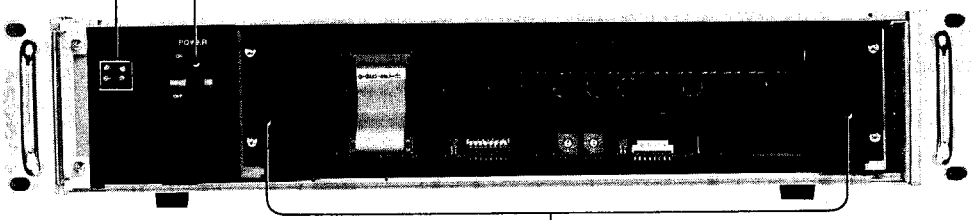


Den unteren Teil des Verriegelungshebels drücken und den oberen Teil ziehen.

Netzschalter

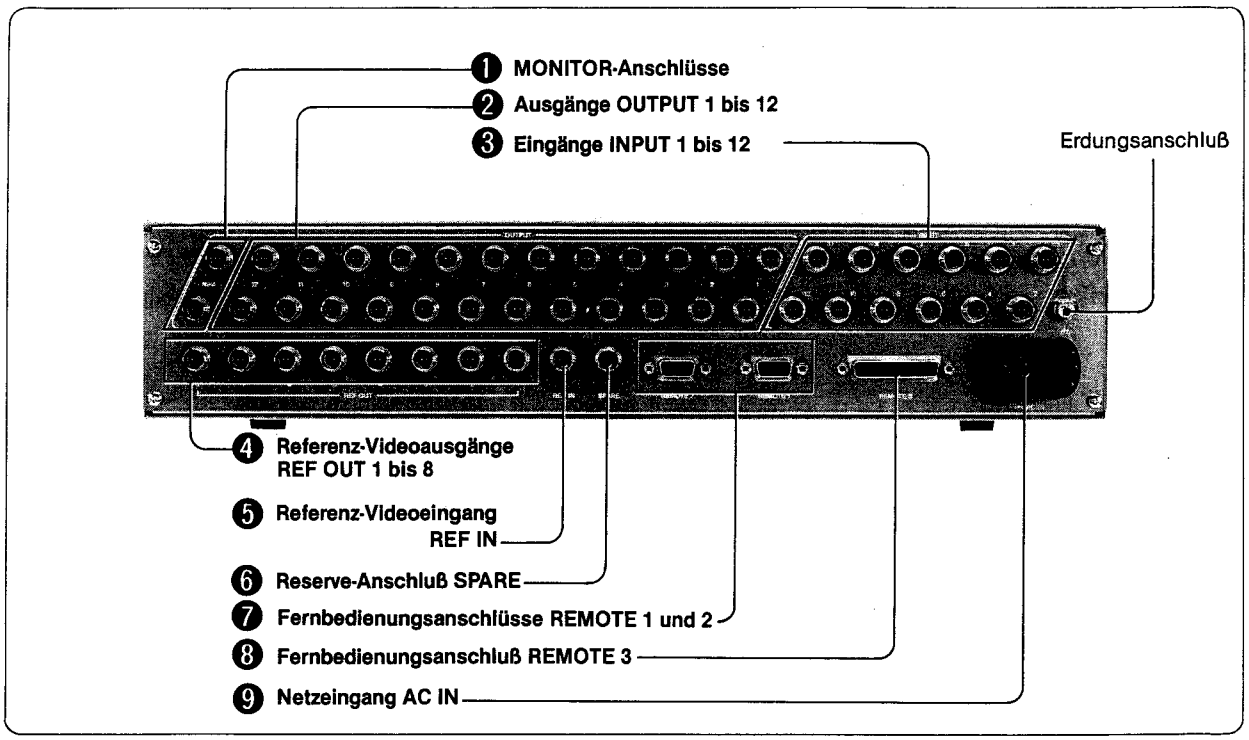
Netzanzeigen

POWER-Schalter



Haltebügel für interne Schaltplatte (nach Einbau des BVS-V1212 entfernen).

Rückwand



❶ MONITOR-Anschlüsse (BNC)
Die beiden Anschlüsse liefern das gleiche Eingangs- oder Ausgangs-Videosignal, wenn der betreffende Kreuzpunkt über Fernbedienung gewählt wird.

❷ Video-Ausgänge OUTPUT 1 bis 12 (BNC)
Jedes der 12 Ausgangspaare liefert das gleiche Eingangssignal, wenn der betreffende Kreuzpunkt über Fernbedienung angewählt wird.

❸ Video-Eingänge INPUT 1 bis 12 (BNC)
Hier die Video-Eingangssignale anlegen. Diese Buchsen sind intern mit 75 Ohm abgeschlossen.

❹ Referenz-Videoausgänge REF IN 1 bis 8 (BNC)
Der Schwarzwertpegel des an den Referenz-Videoeingang REF IN ❺ angelegten Video-Referenzsignals wird abgegriffen und das Signal wird achtfach verteilt, bevor es über die Ausgänge 1 bis 8 ausgegeben wird.

❺ Referenz-Videoeingang REF IN
Hier ein Referenz-Videosignal anlegen. Diese Buchsen sind intern mit 75 Ohm abgeschlossen.

❻ Reserve-Anschluß SPARE (BNC)
Unbenutzt

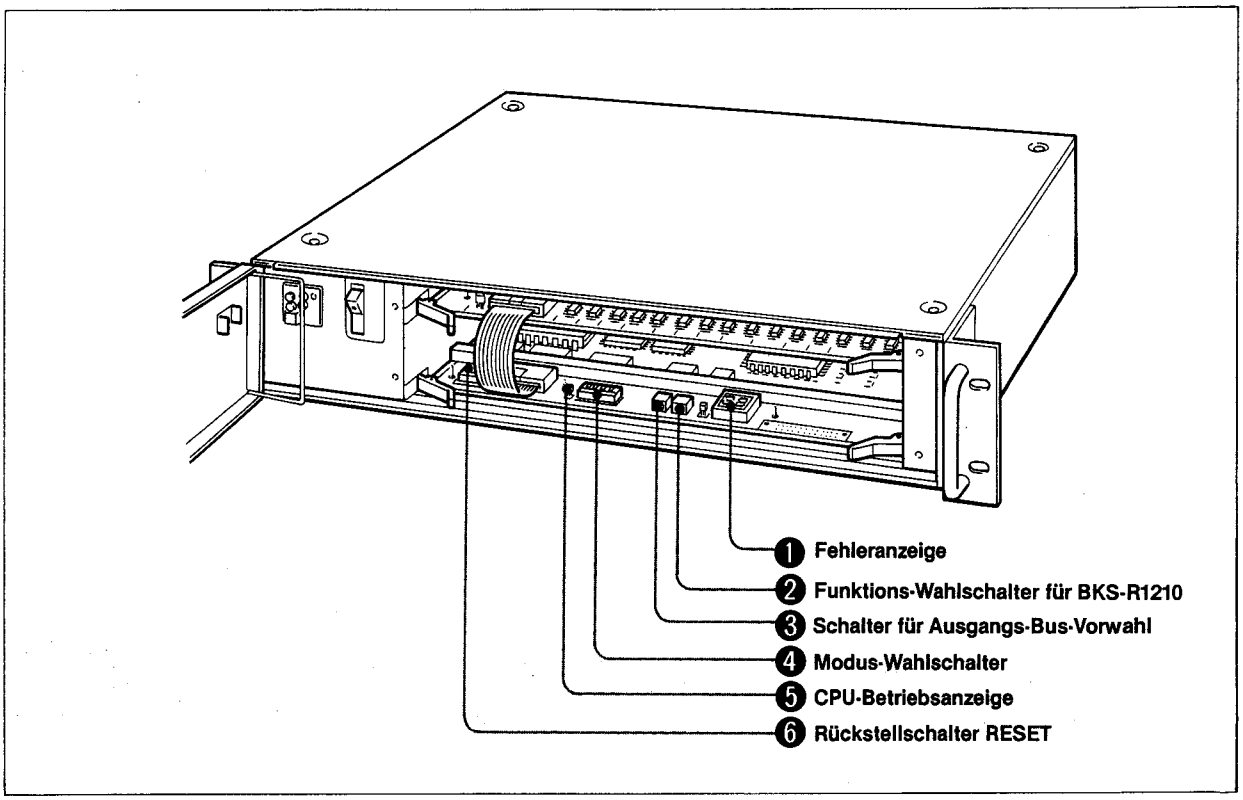
❼ Fernbedienungsanschlüsse REMOTE 1 und 2 (D-SUB, 9pol)
An einen oder beide REMOTE-Eingänge kann über 9pol Sony-Fernbedienungskabel ein externes Steuergerät angeschlossen werden. Beide Eingänge sind als Durchlaufschleife ausgelegt. Bei Anschluß eines externen Steuergeräts an einen Eingang und eines weiteren BVS-V1212 oder eines Audio-Schalters BVS-A1212 an den anderen Eingang lassen sich beide Schalter gleichzeitig vom gleichen externen Steuergerät steuern. Wird der zweite REMOTE-Eingang nicht zum Durchschleifen benutzt, so muß dieser auf der internen Schaltplatte mit einem Überbrückungsdraht abgeschlossen werden. (Weitere Einzelheiten entnehmen Sie bitte der Wartungsanleitung.)

❽ Fernbedienungsanschluß REMOTE 3 (D-SUB, 25pol)
Für den Anschluß des Audio-Schalters BVS-A1212, eines weiteren BVS-V1212 oder einer Fernbedienungseinheit BKS-R1210.

❾ Netzeingang AC IN
Mit dem mitgelieferten Netzkabel an eine Netzsteckdose anschließen, die normale Haushaltsspannung von 100 bis 240 V Wechselstrom führt.

Interne Schaltplatte CPU-68

Es folgt eine kurze Beschreibung einiger Schalter und Indikatoren auf der Schaltplatte CPU-68.
Nähere Einzelheiten über die Verwendung der Schalter entnehmen Sie bitte der Wartungsanleitung.



❶ Fehleranzeige
Bei Einschalten des BVS-A1212 oder Betätigung des RESET-Schalters auf der Schaltplatte CPU-68 ertönt im Falle von Funktionsstörungen oder Problemen auf den internen Schaltplatten ein Summer und der entsprechende Fehlercode wird etwa 2 Sekunden lang angezeigt. Weitere Einzelheiten entnehmen Sie bitte dem Abschnitt "Fehleranzeige".

❷ Funktions-Wahlschalter (S3) für BKS-R1210
Zur Einstellung des Steuermodus der Fernbedienungseinheit BKS-R1210. (Lesen Sie bitte zusätzlich zur Wartungsanleitung den Abschnitt "Bedienung" in der Bedienungsanleitung der BKS-R1210.)

❸ Schalter (S2) für Ausgangs-Bus-Vorwahl
Zur Vorwahl eines oder mehr Ausgangs-Busse für die Steuerung über die Fernbedienungseinheit BKS-R1210. (Lesen Sie bitte zusätzlich zur Wartungsanleitung den Abschnitt "Bedienung" in der Bedienungsanleitung der BKS-R1210.

❹ Modus-Wahlschalter (S1)
1: Wählt, ob der BVS-V1212 bei Einschalten oder CPU-Rückstellung auf Testmodus oder Normalbetrieb schaltet.
2: Wählt, ob der BVS-V1212 bei Einschalten oder CPU-Rückstellung den letzten Kreuzpunkt initialisiert.
3, 4, 5, 6: Unbenutzt.
7: Wählt, ob Statusdaten über REMOTE 3 rückgeführt werden sollen.
8: Wählt, ob Rückführung über REMOTE 1 und 2 erfolgen soll.

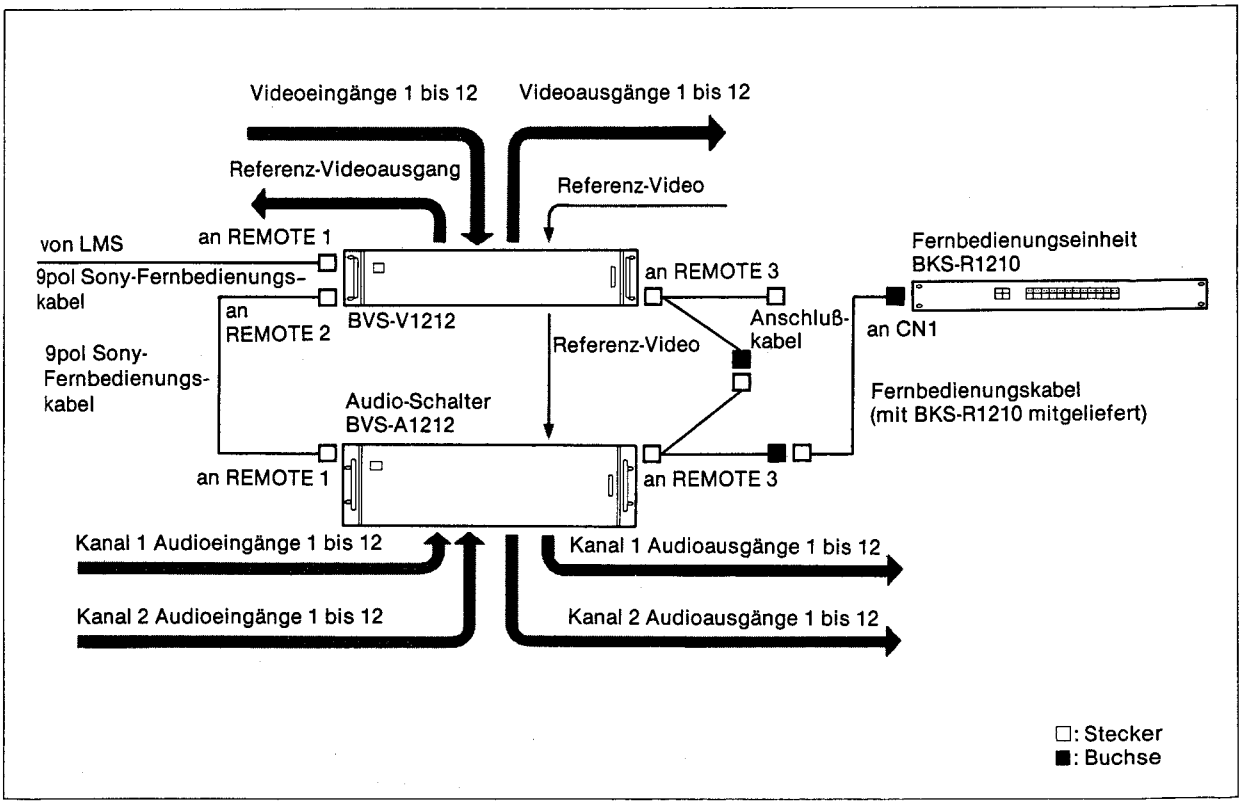
❺ CPU-Betriebsanzeige (D16)
Leuchtet (hellblau) bei Normalbetrieb der CPU.

❻ Rückstellschalter RESET (S11)
Zur CPU-Rückstellung oder System-Initialisierung drücken.

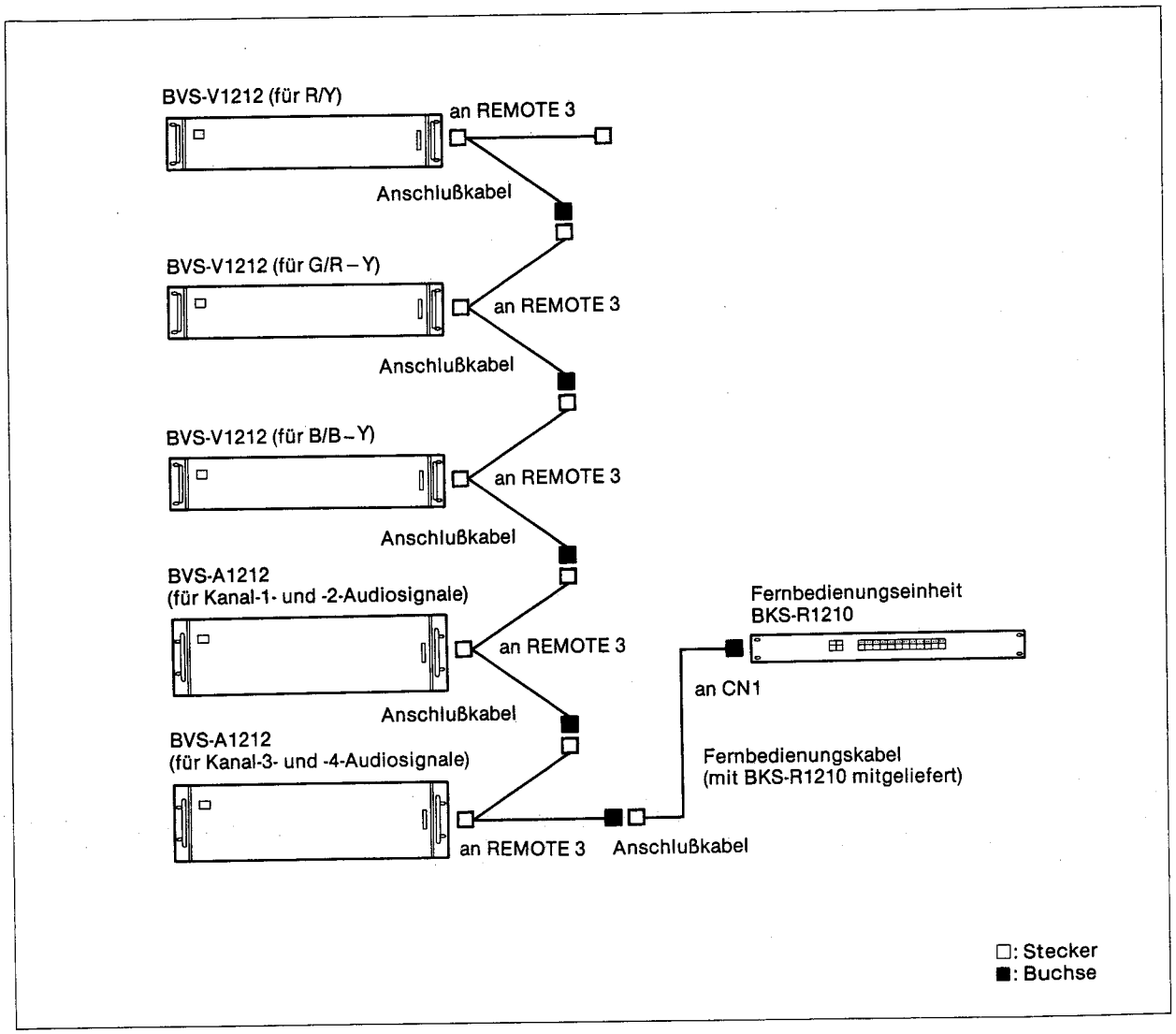
System-Anschlüsse

Verwenden Sie das mitgelieferte Anschlußkabel, um den BVS-V1212 an einen Audio-Schalter BVS-A1212 oder einen weiteren BVS-V1212 anzuschließen.

Komponenten-Video/2-Kanal-Audio-Schalter-System



Komponenten-Video/4-Kanal-Audio-Schalter-System



Zur Beachtung

Bei Zusammenstellung dieses Systems müssen die internen Schalter aller Verteiler-Schalter entsprechend eingestellt werden. Einzelheitem entnehmen Sie bitte der Wartungsanleitung.

Fehleranzeige

Bei jedem Einschalten des BVS-V1212 oder bei Betätigung des RESET-Schalters auf der Schaltplatte CPU-68 schaltet der BVS-V1212 auf Selbstdiagnosebetrieb.
Bei Erkennen einer Funktionsstörung während der Selbstdiagnose ertönt ein Summer und der Fehlerindikator der Schaltplatte CPU-68 zeigt den betreffenden Fehlercode für ca. zwei Sekunden. Zur Störungsbeseitigung folgen Sie bitte den Tabellen weiter unten.
Nach erfolgter störungsbeseitigung schalten Sie den BVS-A1212 erneut ein und vergewissern Sie sich, daß die Fehleranzeige nicht mehr erscheint.
Bei einwandfreiem Betrieb zeigt die Fehleranzeige für ca. eine Sekunde "--" und der BVS-V1212 schaltet auf Normalbetrieb.

Zur Beachtung

Nach Einschalten des BVS-V1212 muß die CPU-Betriebsanzeige auf der Schaltplatte CPU-68 leuchten. Andernfalls den BVS-V1212 ausschalten und kurz darauf erneut einschalten. Wenn die Anzeige dann immer noch nicht leuchtet, benachrichtigen Sie bitte Ihren Sony-Fachhändler.

Ein Dauerton bedeutet Störung auf der Schaltplatte CPU-68.

Fehler-code	Mögliche Ursache (Test-Nr.)	Gegenmaßnahme
H0 oder H1	Kein Kreuzpunkt-Wahlimpuls erzeugt. (Test Nr. 13)	ICE4, ICB7, ICB4 auswechseln.
H2	Störung zwischen ICE4 und ICB3. (Test Nr. 9)	ICE4, ICB3, ICC4 auswechseln.
H3	Störung zwischen Anschluß REMOTE 3 und ICH2. (Test Nr. D)	ICE4, ICH2, ICD6, ICE6, BKS-1210 auswechseln bzw. instandsetzen.
H4	Störung zwischen ICE4 und ICB6. (Test Nr. C)	ICE4, ICB6, ICE6 auswechseln.
H5	Falsche Einstellung von Schalter UA2 (Adreß-Schalter).	Korrigieren.*
	ICH5 beschädigt. (Test Nr. 4)	ICH5 auswechseln.

*Es darf höchstens ein Bit auf ON gesetzt werden.

Ein ca. 1 Sekunde langer Summton bedeutet Störung auf Schaltplatte CPU-68 oder VSW-21.

Fehler-code	Mögliche Ursache (Test-Nr.)	Gegenmaßnahme
H9	Falsche Einstellung von Schalter UA2 (Adreß-Schalter) auf CPU-68.	Korrigieren.
	ICH5 auf CPU-68 beschädigt. (Test Nr. 4)	ICH5 auswechseln.
HA	Schaltplatte VSW-21 oder Kabel zw. oberer VSW-21 und CPU-68 nicht korrekt eingeschoben.	Korrigieren.
	IC125 auf CPU-68 beschädigt. (Test Nr. 4)	IC125 auswechseln.

Technische Daten

Allgemein

Spannungsversorgung	100 bis 240 V Wechselstrom, 50/60 Hz
Leistungsaufnahme	15 W
Betriebstemperaturbereich	5 °C bis 40 °C
Gewicht	7,1 kg
Abmessungen (B/H/T)	424 × 88 × 350 mm

Eingänge/Ausgänge und Signale

Videosignal-Eingang	BNC-Typ (12) 1,0 Vss
Videosignal-Ausgang	BNC-Typ (12 Paare)
Monitorsignal-Ausgang	BNC-Typ (1 Paar)
Referenz-Videosignal-Eingang	BNC-Typ (2), einer für Schleifendurchgang 1,0 Vss
Referenz-Videoausgang	BNC-Typ (8)
Fernbedienungs-Signaleingang	D-SUB 25pol (1) D-SUB 9pol (2), einer für Schleifendurchgang; RS-422A
Netzeingang	3pol Anschluß (1)

Kennwerte

DG (1 Vss, 10 bis 90 % mittlere Bildhelligkeit)	weniger als 0,2 %
DP (1 Vss, 10 bis 90 % mittlere Bildhelligkeit)	weniger als 0,2°
Frequenzgang	±0,1 dB (100 kHz bis 6 MHz) ±0,3 dB (6 MHz bis 12 MHz)
Übersprechdämpfung	besser als −50 dB (bei 5 MHz)
Signal-Rauschabstand	besser als 70 dB (5 MHz Tiefpaß)
Eingangs-Rückführverlust	Primäreingang: über 42 dB (bei 5 MHz) Referenz-Videoeingang: über 42 dB (bei 5 MHz)
Kreuzpunkt-Laufzeit-Streuung	zwischen zwei Eingängen: innerhalb ±0,75 % (bei 4,43 MHz) zwischen zwei Ausgängen: innerhalb ±1,5 % (bei 4,43 MHz)
Schaltstörspannung	unter 100 mVss
Schaltschritte innerhalb	±30 mV
K-Faktor (2T-Impuls)	unter 0,5 %
Tilt (Linie und Halbbild)	unter 1 %
Ausgangsverstärkungs-Stabilität	±0,1 dB
Ausgangs-Rückführverlust	besser als 42 dB (bei 5 MHz)

Mitgeliefertes Zubehör

Netzkabel (3)
Steckerhalter (1)
Anschlußkabel (D-SUB 25pol) (1)
Erweiterungskabel (20pol) (1)
Erweiterungsplatine (1)
Bedienungsanleitung (1)
Wartungsanleitung (1)

Sonderzubehör

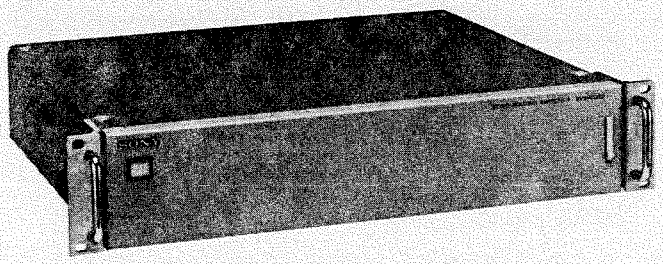
Audio-Schalter BVS-A1212
Fernbedienungseinheit BKS-R1210
9pol Sony-Fernbedienungskabel RCC-5G, RCC-10G oder RCC-30G

Änderungen, die dem Fortschritt dienen, bleiben vorbehalten.

SONY

VIDEO ROUTING SWITCHER (12×12)

BVS-V1212



MAINTENANCE MANUAL
1st Edition
Serial No. 10001 and Higher

WARNING

For the customers in the USA

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures may be required to correct the interference.

Important—To insure that the complete system (including this peripheral) is capable of complying with the FCC requirements, it is recommended that the user make sure that the individual equipment of the complete system has a label with one of the following statements.
"This equipment has been tested with a Class A Computing Device and has been found to comply with Part 15 of FCC rules."
—or—
"This equipment complies with the requirements in Part 15 of FCC rules for a Class A Computing Device."
—or equivalent.

The shielded interface cable recommended in this manual must be used with this equipment in order to comply with the limits for a computing device pursuant to Subpart J of Part 15 of FCC Rules.

For the customers in Canada

This apparatus complies with the Class A limits for radio noise emissions set out in Radio Interference Regulations.

Pour les utilisateurs au Canada

Cet appareil est conforme aux normes Classe A pour bruits radioélectriques, spécifiés dans le Règlement sur le brouillage radioélectrique.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

Check the metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 3.5 mA. Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 5.25 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 20 V AC range are suitable. (See Fig. A)

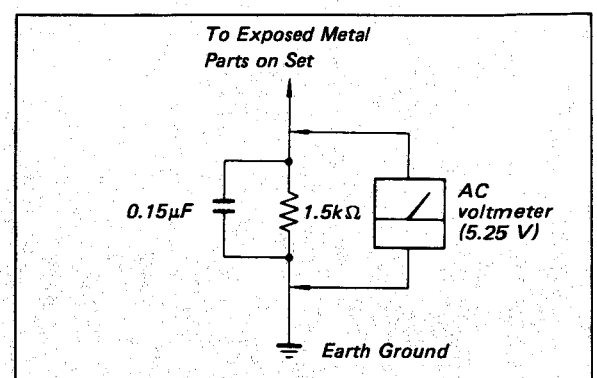


Fig. A. Using an AC voltmeter to check AC leakage.

目 次
TABLE OF CONTENTS

1. 設置

1. INSTALLATION

2. サービスインフォメーション

2. SERVICE INFORMATION

3. テストモード

3. TEST MODE

4. 電気調整要項（近日発行予定）

4. ELECTRICAL ALIGNMENT

(This Section will be Available at a Later Date.)

5. BLOCK DIAGRAMS

(This Section will be Available at a Later Date.)

6. SEMICONDUCTOR ELECTRODES

7. SCHEMATIC DIAGRAMS

8. PRINTED WIRING BOARDS

9. SPARE PARTS AND FIXTURE

第1章
設　置

1−1.　使用環境

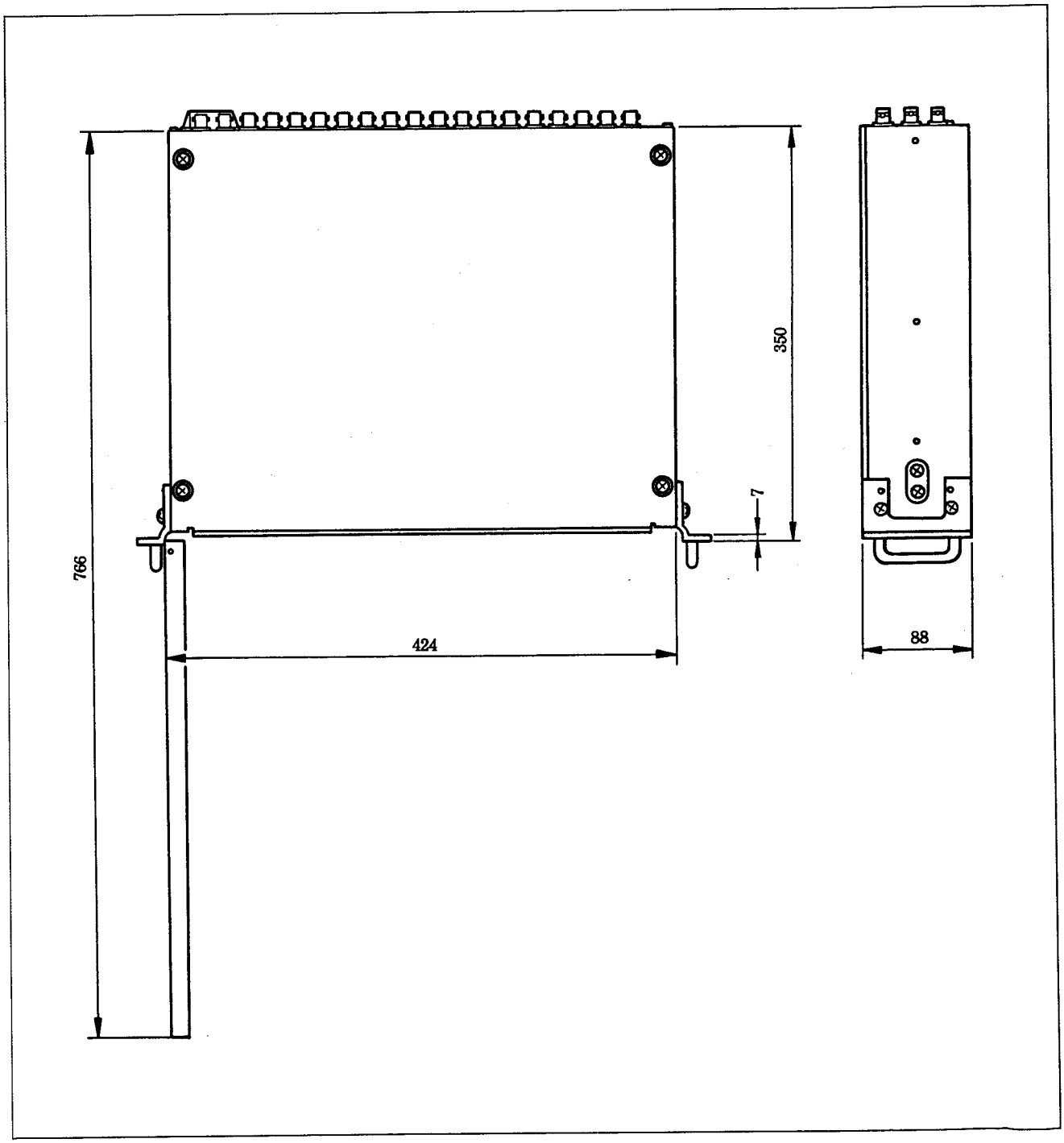
・セット内の温度上昇を防止するために，設置する場所の空気の循環には充分注意して下さい。
・セットの動作環境温度は0°C～40°Cですのでセットを熱源のそばに設置しないで下さい。

1−2.　設置スペース

・セットの外形寸法は図の通りです。

1−3.　電源

・BVS-V1212の電源は，スイッチング電源（±5 V）を使用しており，入力はAC 100～240 V±10切り換えなしで対応します。



1−4. システムセレクトスイッチのセッティング

・セレクトスイッチの機能は下記の通りですので，各々のシステムに合わせて，また状況に応じて，使用して下さい。

1−4−1. CPU-68基板

・S1は下記のように設定します。

No.	機　能
1	テストモードの選択
2	クロスポイントの強制的なイニシャライズ
3 4 5 6	未使用
7	REMOTE 3のTALLY OUT
8	REMOTE 1, 2のRESPONSE

S1-1設定

OPEN	テストモード
CLOSE	通常使用時

S1-2設定

OPEN	クロスポイントの初期化を強制的に行う。
CLOSE	クロスポイントの初期化をしない。

S1-7設定

OPEN	REMOTE 3にTALLYを出さない。
CLOSE	REMOTE 3にTALLYを出す。

S1-8設定

OPEN	REMOTE 1, 2にRESPONSEを返送しない。
CLOSE	REMOTE 1, 2にRESPONSEを返送する。

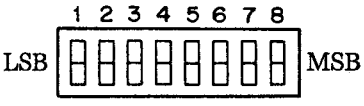
・S2; '0' '1' の時に，BKS-R1210でコントロールするDESTINATIONを設定する。

No.	BKS-R1210のRED側	BKS-R1210のGREEN側
0	MONITOR SOURCE SIDE	
1	DESTINATION 1	
2	DESTINATION 2	
3	DESTINATION 3	
4	DESTINATION 4	
5	DESTINATION 5	
6	DESTINATION 6	MONITOR DESTINATION SIDE
7	DESTINATION 7	
8	DESTINATION 8	
9	DESTINATION 9	
A	DESTINATION 10	
B	DESTINATION 11	
C	DESTINATION 12	
D	MONITOR DESTINATION SIDE	
E F	DESTINATION 1〜12 を一斉に切り換える。	

・S3; BKS-R1210機能切り換えスイッチ

No.	機　能	
0	ONE BUSコントロールパネル	切り換え可能
1	ONE BUSコントロールパネル	TALLY OUT ONLY
2	X-Yコントロール	切り換え可能
3	X-Yコントロール	TALLY OUT ONLY

・S4; ユニットアドレスの選択
REMOTE 1, 2において，制御する場合の本機のアドレス (UA2) を設定します。

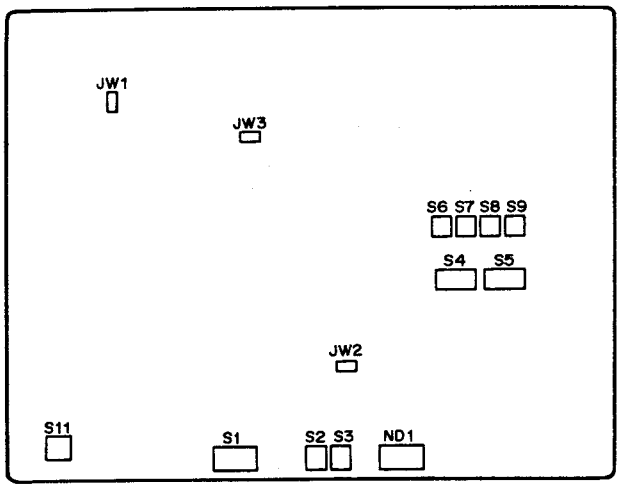


1つだけをONにすることができます。

・S11; リセットスイッチ

CPU-68基板工場出荷時の設定値

SW No.	設定値
S1	1-1 CLOSE (OFF) 1-2 1-3 1-4 1-5 1-6 1-7 1-8
S2	0
S3	0
S4	4-1 ON 4-2 OFF 4-3 OFF 4-4 OFF 4-5 OFF 4-6 OFF 4-7 OFF 4-8 OFF
S5	ALL OFF
S6	0
S7	0
S8	0
S9	0
JW1	OFF
JW2	ENA
JW3	SELF

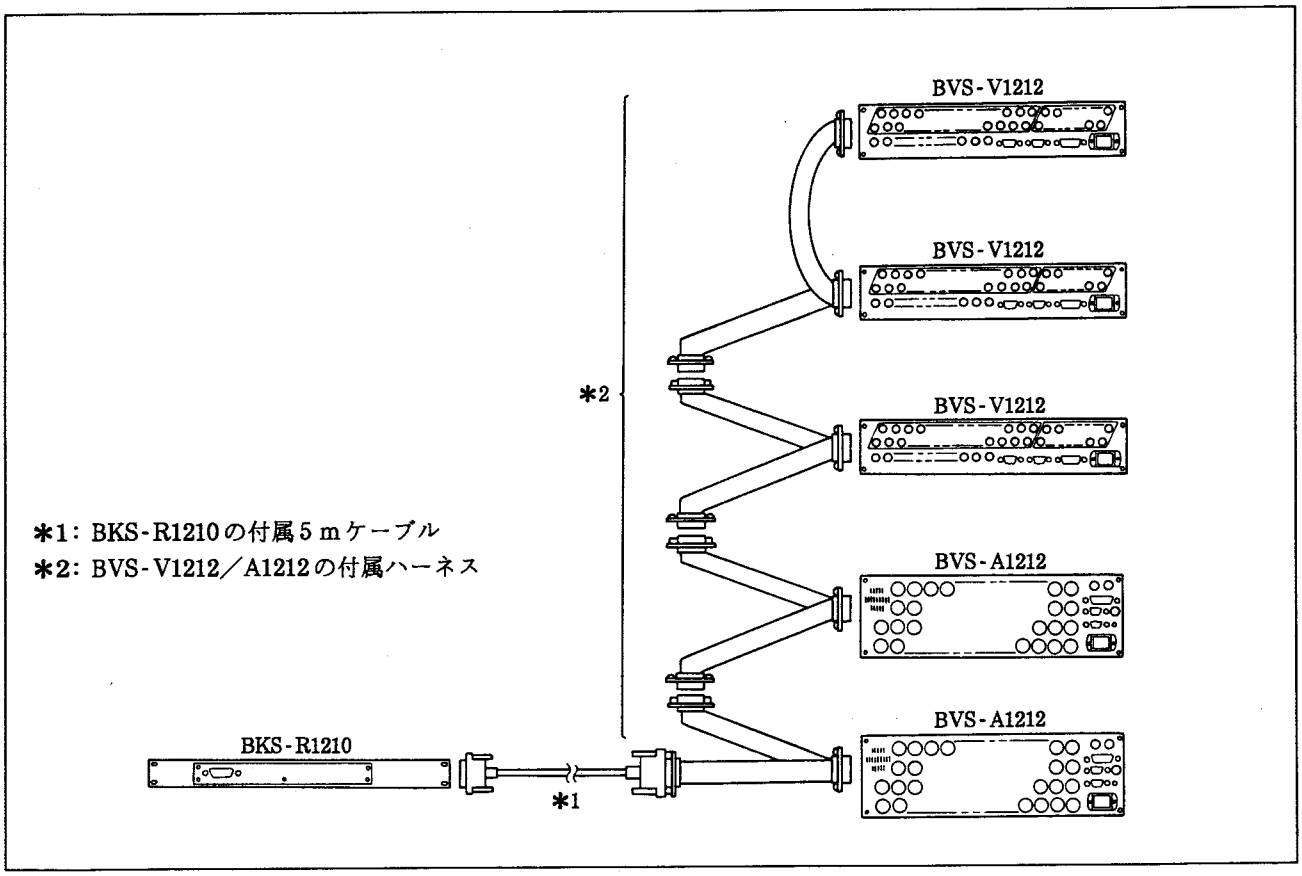


CPU-68基板（部品面）

1−5. BKS-R1210との接続

BKS-R1210 1台でBVS-V1212／A1212が複数台接続可能です。

[接続方法]



[接続後の設定]

(1) 接続されているBVS-V1212／A1212のCPU-68基板S2, S3は全て同じ設定にして下さい。

(2) 接続された中で，1台のみCPU-68基板S1-7をCLOSE，残りはすべてCPU-68基板S1-7をOPEN にして下さい。

1−6. COMPONENT VIDEO接続

[前提事項]

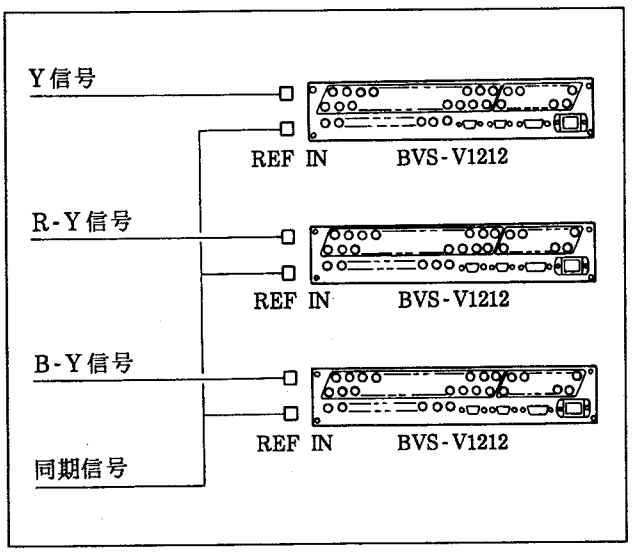
(1) BVS-V1212はSYNCのついたVIDEO信号の入力に対してSELF CLAMPします。

(2) SYNCのないVIDEO信号（例えば，B-Y，R-Y信号など）もCLAMPできるように，リアパネルのREF VIDEO INの信号からCLAMP PULSEをぬき取り，これに同期して入力されるVIDEO信号をCLAMPできます。

(3) その際は，各BVS-V1212のCPU-68基板のJW3をPULSE側に設定して下さい。

[接続方法]

Component Video (Y, R-Y, B-Y), HDVS (Y, R-Y, B-Y) などのVIDEO信号にて，



本BVS-V1212はVIDEO 8分配ができるので，1台にのみ同期信号を入れて，他の2台にはその分配した同期信号をくばるような接続もできます。

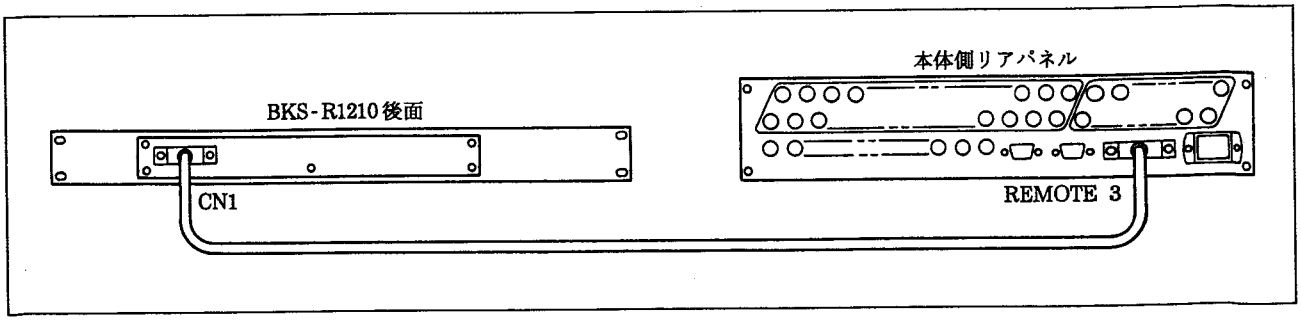
[接続後の設定]

(1) 接続されている3台のBVS-V1212のCPU-68基板JW3はPULSEに設定にしてください。

(2) また，3台は同時にREMOTE 1にシリアルコントロールされるため，接続された中で，1台のみCPU-68基板S1-8をCLOSE，残り2台はOPENにしてください。上記の例ですと，1台のBVS-V1212をCLOSE，残り2台はOPENにします。

1−7. BKS-R1210の取り付け

・BKS-R1210のリモコンパネルのCN1とBVS-V1212のリアパネルのREMOTE 3をBKS-R1210に付属されているリモコンケーブルで接続します。

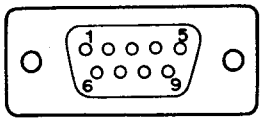


1－8．　コネクターの入出力信号

コネクターパネルのコネクターの入出力信号は下記の通りです。

1－8－1．　BVS-A1212

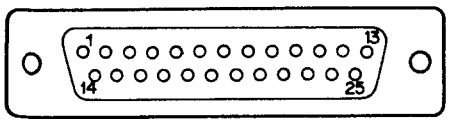
REMOTE 1, 2 (D-SUB 9 ピン FEMALE)



－ EXT VIEW －

PIN No.	信号名	機　能
1	F.G.	FRAME GROUND
2	RS422 T－	TRANSMIT A
3	RS422 R+	RECEIVE B
4	RS422 RCOM	RECEIVE SIGNAL COMMON
5	DS9-5 SPARE	
6	RS422 TCOM	TRANSMIT SIGNAL COMMON
7	RS422 T+	TRANSMIT B
8	RS422 R－	RECEIVE A
9	F.G.	FRAME GROUND

REMOTE 3 (D-SUB 25 ピン FEMALE)

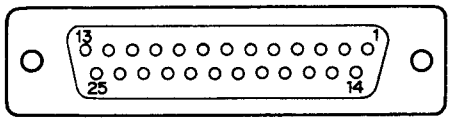


– EXT VIEW –

PIN No.	信号名	機　能
1		
2		
3	+5 V	+5 V; OUTPUT
4		
5	DST-A	DESTINATION SELECT BINARY DATA; OUTPUT
6	DST-B	
7	DST-C	
8	DST-D	
9	CH-C	SOURCE, DESTINATION SELECT; INPUT
10	DST ONLY	SELECT DESTINATION ONLY; INPUT
11	SRC ONLY	SELECT SOURCE ONLY; INPUT
12		
13	SRC-A	SOURCE SELECT BINARY DATA; OUTPUT
14		
15		
16		
17	+5 V	+5 V; OUTPUT
18	GND	
19	CH-1	SOURCE, DESTINATION SELECT; INPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	SRC-D	SOURCE SELECT BINARY DATA; OUTPUT
24	SRC-C	
25	SRC-B	

1－8－2 BKS-R1210

D-SUB 25ピンMALE



－ EXT VIEW －

PIN No.	信号名	機　能
1		
2	A2 ONLY	GREEN BUTTOM; OUTPUT
3	+5 V IN	+5 V FOR GREEN TALLY
4		
5	A1-A	GREEN TALLY BINARY DATA; INPUT
6	A1-B	
7	A1-C	
8	A1-D	
9	CH-C	BUTTOM BINARY DATA; OUTPUT
10	A1 ONLY	GREEN BUTTOM; OUTPUT
11	V ONLY	RED BUTTOM; OUTPUT
12	KEY ON	KEY ON SIGNAL; OUTPUT
13	V-A	RED TALLY BINARY DATA; INPUT
14		
15		
16		
17	+5 V IN	+5 V FOR RED TALLY
18	GND	
19	CH-1	BUTTOM BINARY DATA; OUTPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	V-D	RED TALLY BINARY DATA; INPUT
24	V-C	
25	V-B	

1-9. 接続コネクター

コネクターパネル部のコネクターの機能名称	接続するケーブル側のコネクターの部品番号と名称
REMOTE 1, 2	RCC-5G RCC-10G (リモコンケーブル9P) RCC-50G
REMOTE 3	接続コード (BKS-R1210) 1-574-883-11

1-10. ラックマウントの方法

1-10-1. 19インチ標準ラックに組み込む場合

・BVS-V1212

<推奨品>

スライドレール: ACCURIDE社製, RACKMOUNT SUDES MODEL C-201-22または C-203-22 SLIDE LENGTH 22 INCH 2本

ブラケット : ACCURIDE社製, #5355 4個

<用意するもの>

インナーメンバー取り付け用ネジ (+B 4×6) 6本

板ナット (3穴) 8枚 (ソニー部品番号3-651-812-01)

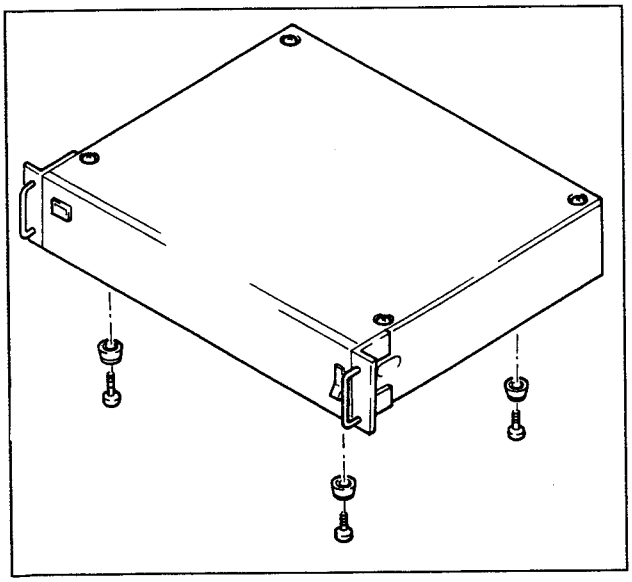
ブラケット固定用ネジ① (+B 4×8) 8本

ブラケット固定用ネジ② (+B 4×12) 12本

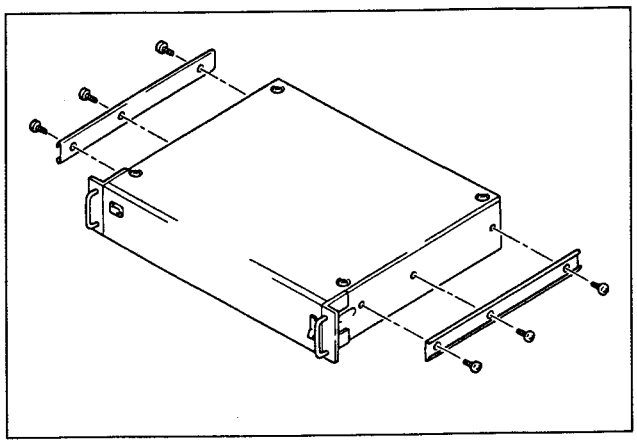
ラックマウント用ネジ (+RK 5×16) 4本

ラックマウント用飾りワッシャー 4個
(ソニー部品番号2-297-913-01)

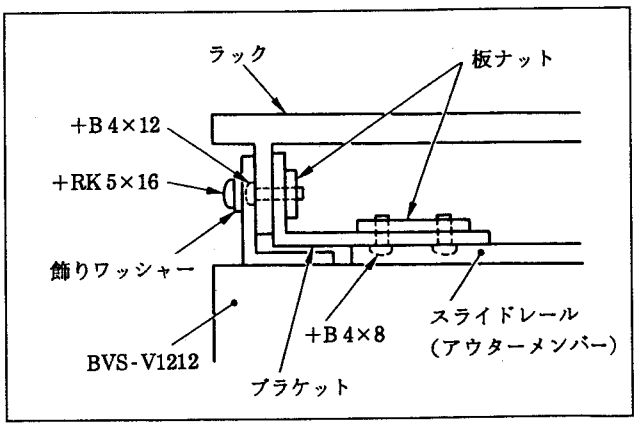
1. セット底面の脚4個を取り外します。



2. 用意したネジ (+B 4×6) でスライドレールのインナーメンバーを取り付けます。



3. スライドレールのアウターメンバーとブラケットを4枚の板ナット (3穴) を使用し8本のネジ (+B 4×8) で仮り止めします。
4. スライドレールのアウターメンバーのブラケットを板ナットでラックに取り付け, スライドレールの先端からラック外側までの寸法がセット側のインナーメンバーの位置と合う様に調整します。



・BKS-R1210

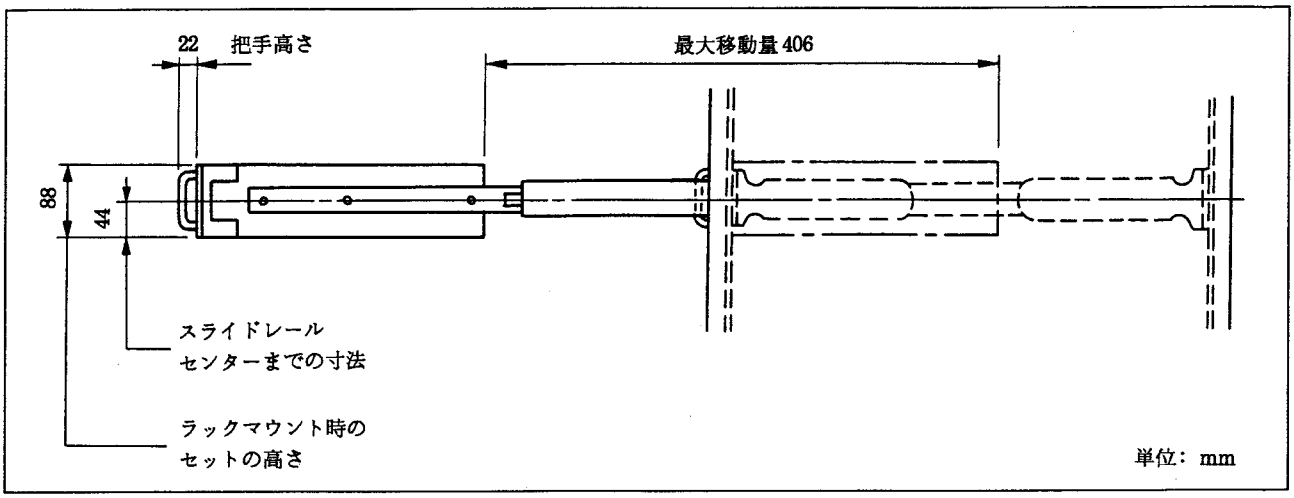
<用意するもの>

ラックマウント用ネジ (+RK 5×16) 4本

ラックマウント用飾りワッシャー 4本
(ソニー部品番号2-297-913-01)

1. ラックマウント用ネジとワッシャーで取り付けます。

・BVS-V1212をラックマウントしたときの最大移動距離は下記の通りです。



1－10－2. LMS (LIBRARY MANAGEMENT SYSTEM) に組み込む場合

コンソールに付属のスライドレール，ラックアングル，ブラケットを使用してください。

1. LMSのコンソールに付属しているラックアングルとブランクパネルを外し，ブランクパネルからラックアングルを外します。
2. セット底面の脚4個とラックアングルを取り外します。
3. 付属のネジ（+B 4×10）でラックアングルを取り付けます。
4. コンソールに設置されているスライドレールからインナーメンバーを抜き取ります。
5. 付属のネジ（+B 4×8）でスライドレールのインナーメンバーを取り付けます。

1－11. 付属品アクセサリー

・電源コード (3)
（2ピン／3ピン／先バラ）
・オペレーションマニュアル (1)
・メンテナンスマニュアル (1)
・プラグホルダー (1)
・ユニットハーネス (1)
・20P延長ハーネス (1)
・延長基板 (1)

SECTION 1
INSTALLATION

1-1. OPERATING ENVIRONMENT

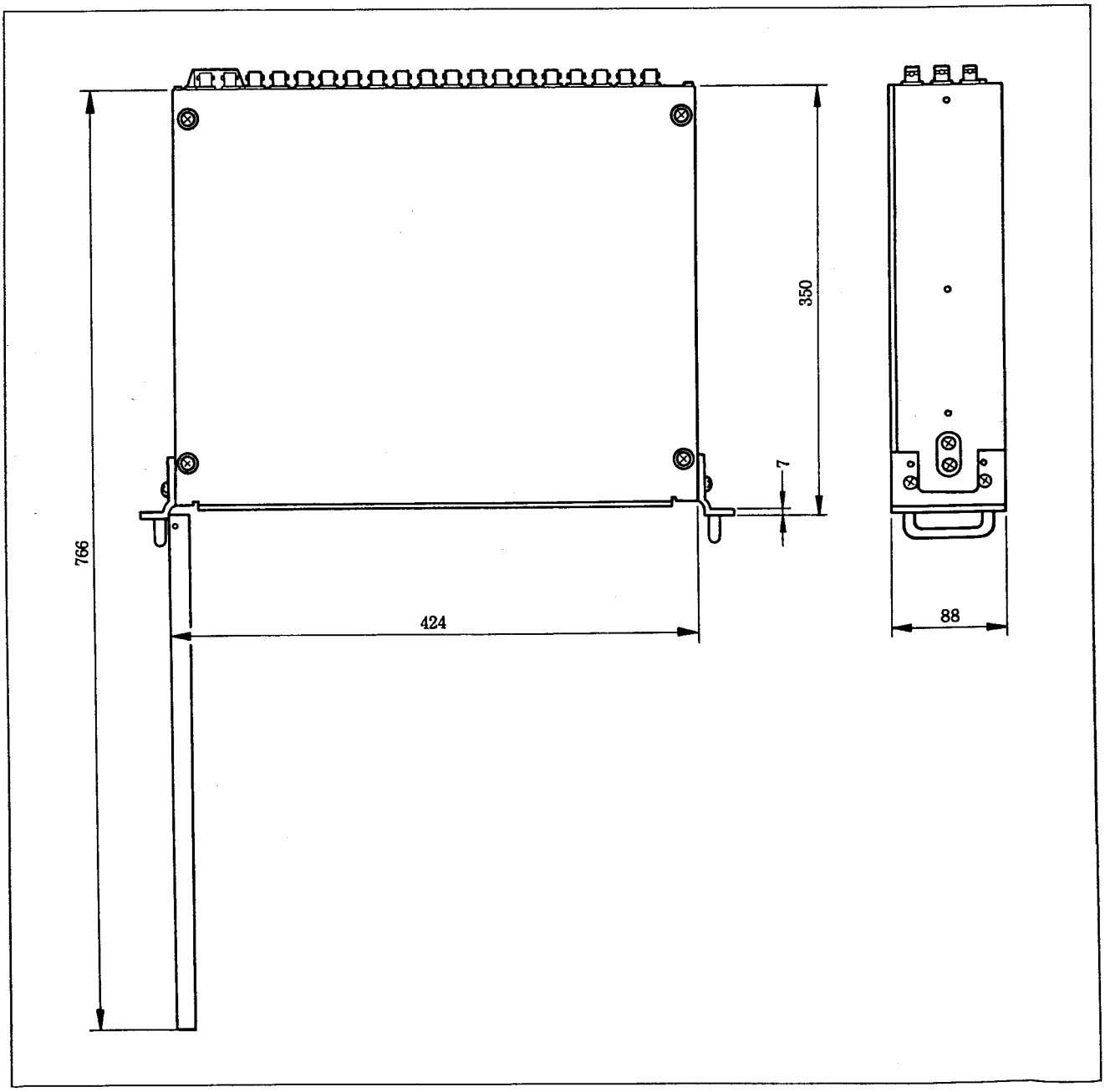
.Be very careful of the air circulation at the installation site to prevernt an increase in temperature within the unit.
.As teh operating temperature of the unit is 0°C to 40°C, do not install the unit close to a source of heat.

1-2. INSTALLATION SPACE

.The external dimensions of the unit are as shown in the figure.

1-3. POWER SOURCE

.A switching regulator(±5V)is used for the power source of the BVS-V1212; therefore, the unit can be used with a voltage of 100V to 240V ±10% without changing the supply voltage.



1-4. SYSTEM SELECT SWITCH SETTINGS

.The functions of the select switches are the following. Use them according to your system and your requirements.

1-4-1. CPU-68 Borad

.Set to the SW1 in the table below.

No.	Function
1	Select of TEST MODE
2	Compulsory initialize of close point.
3 4 5 6	unused
7	TALLY OUT of REMOTE 3
8	RESPONSE of REMOTE 1 and 2

Set to the SW1-1

OPEN	TEST MODE
CLOSE	Generally use

Set to the SW1-2

OPEN	Enable to perform initialize of close point compulsory.
CLOSE	Disable to perform initialize of close point.

Set to the SW1-7

OPEN	Disable to send TALLY in REMOTE 3.
CLOSE	Enable to send TALLY in REMOTE 3.

Set to the SW1-8

OPEN	Disable RESPONSE in REMOTE 1 and 2.
CLOSE	Enable to RESPONSE in REMOTE 1 and 2.

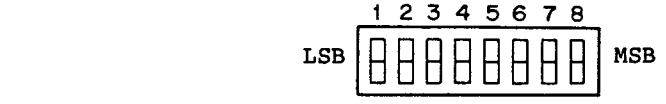
.SW2; When SW3 is set to '0' or '1', set to controled DESTINATION in the BKS-R1210.

No.	RED Side of BKS-R1210	GREEN Side of BKS-R1210
0	MONITOR SOURCE SIDE	
1	DESTINATION 1	
2	DESTINATION 2	
3	DESTINATION 3	
4	DESTINATION 4	
5	DESTINATION 5	MONITOR
6	DESTINATION 6	DESTINATION SIDE
7	DESTINATION 7	
8	DESTINATION 8	
9	DESTINATION 9	
A	DESTINATION 10	
B	DESTINATION 11	
C	DESTINATION 12	
D	MONITOR DESTINATION SIDE	
E F	Change the destination from 1 to 12 all at once.	

.SW3; The switch changed the functions of the BKS-R1210

No.	Function	
0	ONE BUS CONTROL PANEL	Enable to change
1	ONE BUS CONTROL PANEL	TALLY OUT ONLY
2	X-Y CONTROL	Enable to change
3	X-Y CONTROL	TALLY OUT ONLY

.SW4; Select of unit address
Set to the address (UA2), when controled BVS-V1212 in REMOTE 1 and 2.

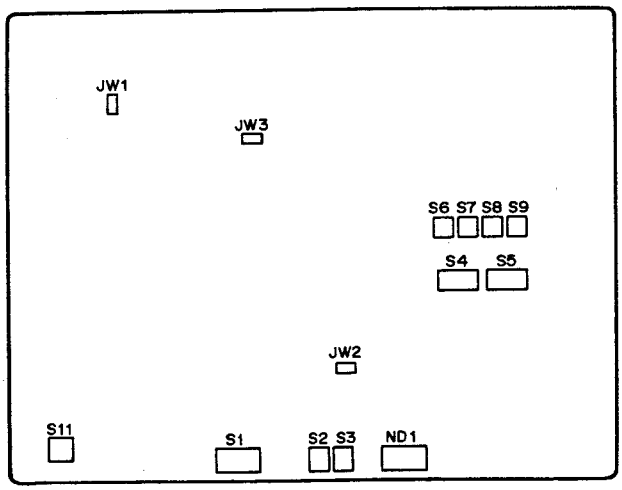


Only one switch is able to set to ON.

.SW11; RESET SWITCH

Setting before shipment of CPU-68 board.

SW No.	Position
S1	1-1 CLOSE (OFF) 1-2 1-3 1-4 1-5 1-6 1-7 1-8
S2	0
S3	0
S4	4-1 ON 4-2 OFF 4-3 OFF 4-4 OFF 4-5 OFF 4-6 OFF 4-7 OFF 4-8 OFF
S5	ALL OFF
S6	0
S7	0
S8	0
S9	0
JW1	OFF
JW2	ENA
JW3	SELF

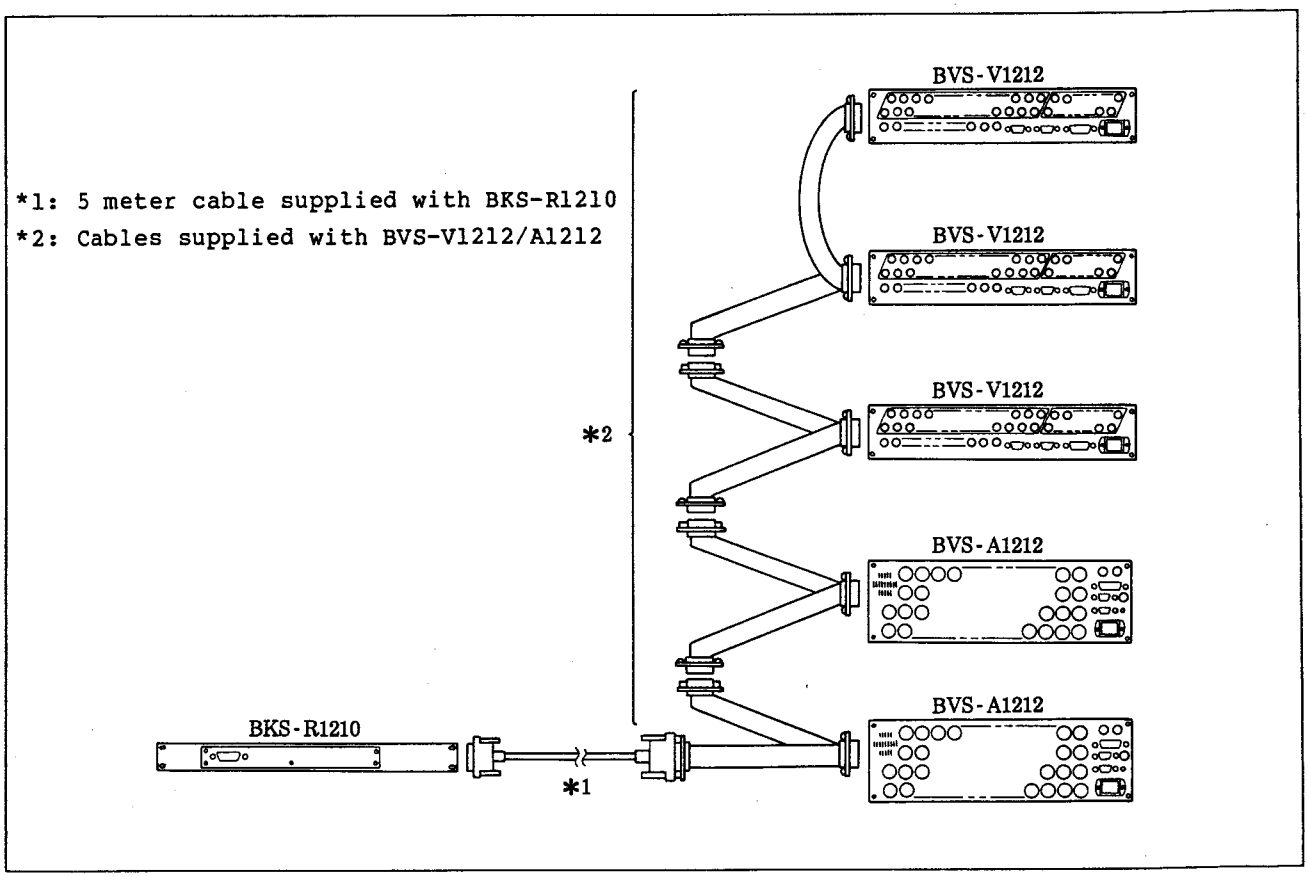


CPU-68 Board (Component Side)

1-5. CONNECTIONS WITH THE BKS-R1210

Two or more BVS-V1212 and BVS-A1212 units can be connected to a single BKS-R1210.

[Connection method]



[Post connection settings]

(1) Set S2 and S3 on the CPU-68 boards of the connected BVS-V1212 and BVS-A1212 units all to the same setting.

(2) S1 Locker 7 on the CPU-68 board of one of the connected units should be set to CLOSE. Set S1-7 on the CPU-68 boards of all the other units to OPEN. In the above example, the first BVS-V1212 should be set to CLOSE and the otheres to OPEN.

1-6. COMPONENT VIDEO CONNECTIONS

[Preliminary items]

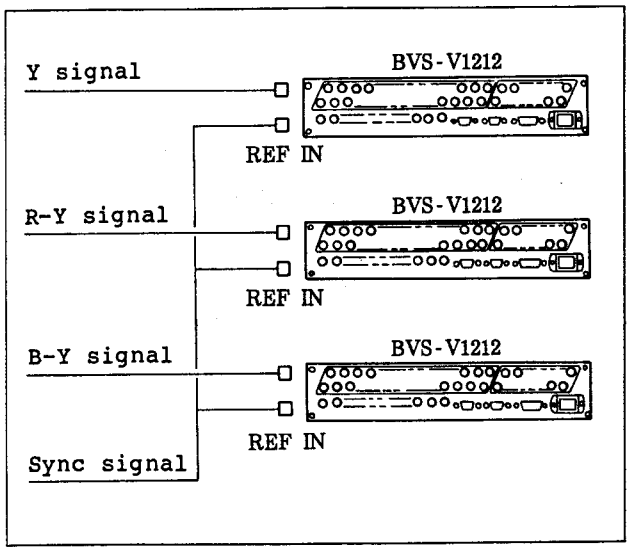
(1) The BVS-V1212 self clamps when a video signal with SYNC in input.

(2) If the video signal contains no SYNC (for example, B-Y, R-Y signals, etc.), a clamp pulse is extracted from the rear panel's REF VIDEO IN signal to enable clamping. The input video signal is clamped by synchronizing with the pulse signal.

(3) In cases such as the above, JW3 on all the BVS-V1212's CPU-68 boards should be set to PULSE.

[Connection method]

With video signals such as component video (Y, R-Y, B-Y) and HDVS (Y, R-Y, B-Y).



The BVS-V1212 can divide the video signal into eight separate signals. Therefore, it is possible to make connections so that a sync signal only needs to be input to one unit and the divided sync signal is distributed to the other two.

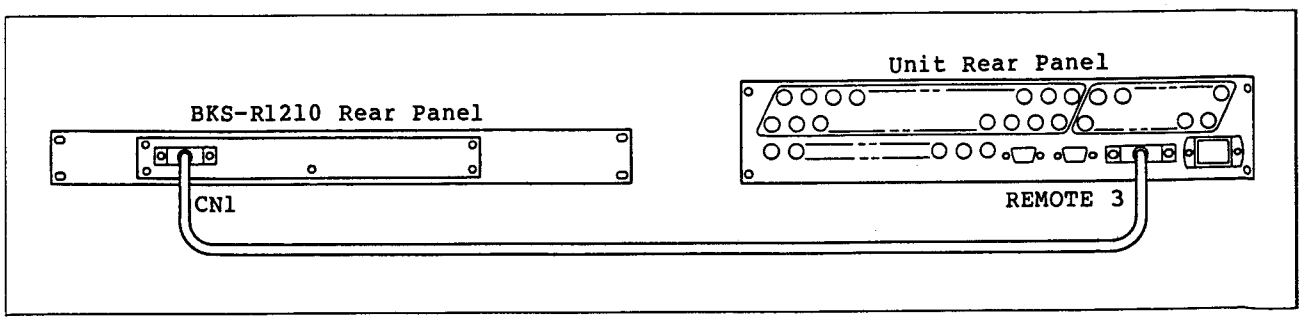
1-7. INSTALLATION OF BKS-R1210

.Connect to the CN1 of BKS-R1210 remote panel and REMOTE3 of BVS-V1212 by using remote control cable of BKS-R1210 accessories.

[Post connection settings]

(1) Set JW3 on the CPU-68 boards of the three BVS-V1212 units to PULSE.

(2) Also, in order to operate all three units simultaneously using serial control via REMOTE 1, S1-8 on the CPU-68 board of one of the units only should be set to CLOSE. S1-8 should be set to OPEN on the other two units.
In the above example, the first BVS-V1212 should be set to CLOSE and the second and third to OPEN.

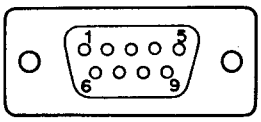


1-8. INPUT/OUTPUT SIGNALS OF THE CONNECTOR

The input/output signals of the connector on the connector panel are the following.

1-8-1. BVS-V1212

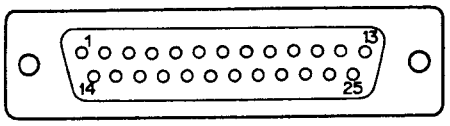
REMOTE 1.2 (D-SUB 9PIN FEMALE)



-EXT VIEW-

PIN No.	Signal	Function
1	F.G.	FRAME GROUND
2	RS422 T−	TRANSMIT A
3	RS422 R+	RECEIVE B
4	RS422 RCOM	RECEIVE SIGNAL COMMON
5	DS9-5 SPARE	
6	RS422 TCOM	TRANSMIT SIGNAL COMMON
7	RS422 T+	TRANSMIT B
8	RS422 R−	RECEIVE A
9	F.G.	FRAME GROUND

REMOTE 3.(D-SUB 25PIN FEMALE)

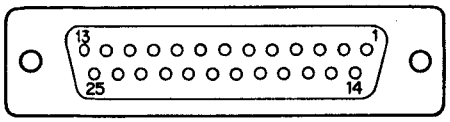


-EXT VIEW-

PIN No.	Signal	Function
1		
2		
3	+5 V	+5 V; OUTPUT
4		
5	DST-A	DESTINATION SELECT BINARY DATA; OUTPUT
6	DST-B	
7	DST-C	
8	DST-D	
9	CH-C	SOURCE, DESTINATION SELECT; INPUT
10	DST ONLY	SELECT DESTINATION ONLY; INPUT
11	SRC ONLY	SELECT SOURCE ONLY; INPUT
12		
13	SRC-A	SOURCE SELECT BINARY DATA; OUTPUT
14		
15		
16		
17	+5 V	+5 V; OUTPUT
18	GND	
19	CH-1	SOURCE, DESTINATION SELECT; INPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	SRC-D	SOURCE SELECT BINARY DATA; OUTPUT
24	SRC-C	
25	SRC-B	

1-8-2. BKS-R1210

CN1 (D-SUB 25PIN MALE)



-EXT VIEW-

PIN No.	Signal	Function
1		
2	A2 ONLY	GREEN BUTTOM; OUTPUT
3	+5 V IN	+5 V FOR GREEN TALLY
4		
5	A1-A	GREEN TALLY BINARY DATA; INPUT
6	A1-B	
7	A1-C	
8	A1-D	
9	CH-C	BUTTOM BINARY DATA; OUTPUT
10	A1 ONLY	GREEN BUTTOM; OUTPUT
11	V ONLY	RED BUTTOM; OUTPUT
12	KEY ON	KEY ON SIGNAL; OUTPUT
13	V-A	RED TALLY BINARY DATA; INPUT
14		
15		
16		
17	+5 V IN	+5 V FOR RED TALLY
18	GND	
19	CH-1	BUTTOM BINARY DATA; OUTPUT
20	CH-D	
21	CH-A	
22	CH-B	
23	V-D	RED TALLY BINARY DATA; INPUT
24	V-C	
25	V-B	

1-9. CONNECTOR

Function name of the connector on the connector panel	Part number of the connector and its name on the cable side
REMOTE 1, 2	RCC-5G RCC-10G (Remote control cable 9P) RCC-50G
REMOTE 3	Connector code (BKS-R1210) 1-574-883-11

1-10. RACK MOUNTING

1-10-1. Mounting onto a 19-inch Standard Rack

.BVS-V1212

Recommended products

Slide rail: RACKMOUNT SUDES MODEL C-203-22 made by ACCURIDE.
SLIDE LENGTH 22 INCH. (2)

Bracket : #5355 made by ACCURIDE (4)

<Prepare the following>

Inner member attaching screw (+B4x6) 6

Flut nut (3 holes) 8 (SONY Part Number: 3-651-812-01)

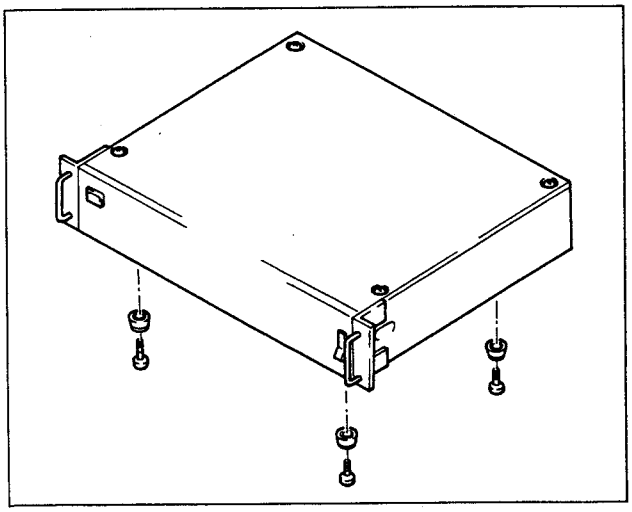
Bracket mounting screw ① (+B4x8) 8

Bracket mounting screw ② (+B4x12) 12

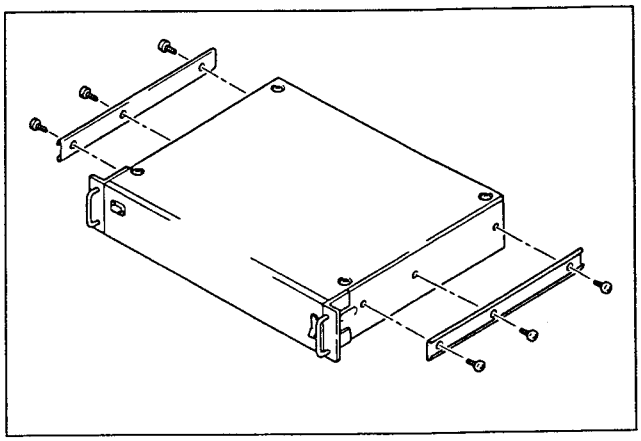
Rack mounting screw (+RK5x16) 4

Rack mounting decorative washer 4
(SONY Part Number: 2-297-913-01)

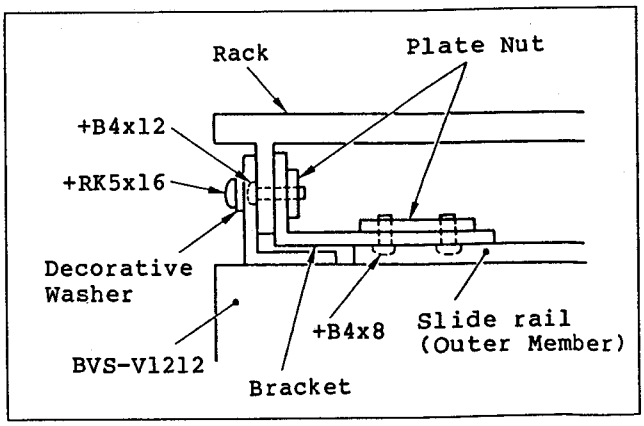
1. Remove the four feet from the bottom of the unit.



2. Attach the inner member of the slide rail with the screws (+B4x6).



3. Tighten the bracket and the outer member of the slide rail temporarily with the eight screws (+B4x8) and with the four plate nuts which have 3 holes.
4. Attach the outer member bracket of the slide rail to the rack with a flat nut. Then adust so that the length between the and of the slide rail and the outside of the rack is equal to that of the inner member at the set side.



.BKS-R1210

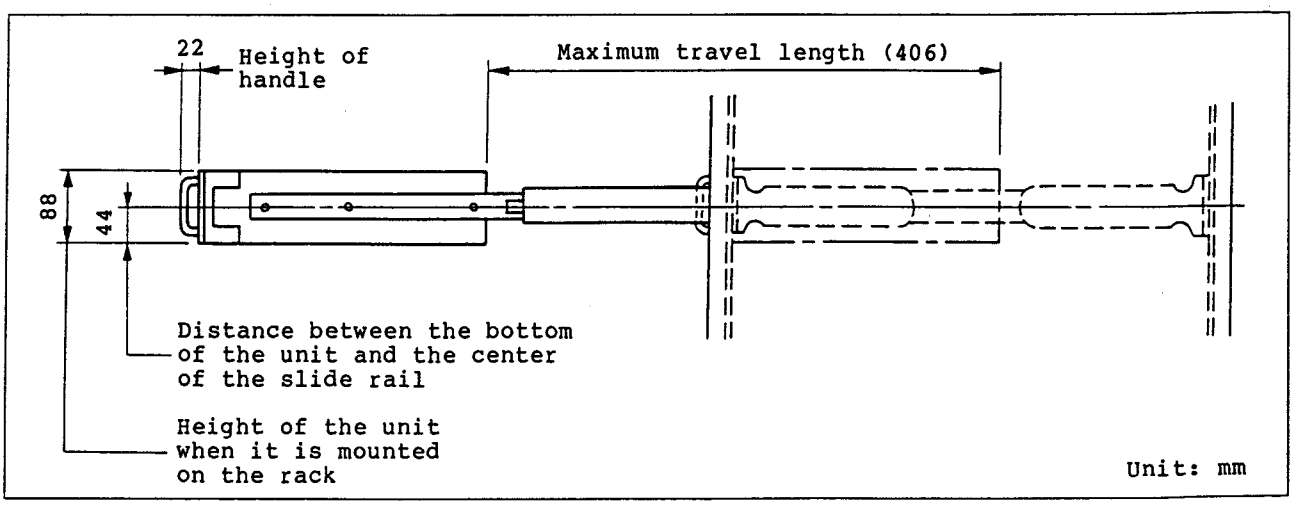
<Prepare the follwing>

Rack mounting screw (+RK5x16) 4

Rack mounting decorative washer 4
(SONY Part Number: 2-297-913-01)

1. Attach with a rack mounting screw and a washer.

When BVS-V1212 is mounted on the rack, the maximum travel length is as follows.



1-10-2. Mounting onto LMS (Library Management System)

Use the slide rail, rack angle, and bracket of the LMS console.

1. Remove the rack angle and the blank panel that are attachec to the console of LMS, and remove the rack angle from the blank panel.
2. Remove the four feet from the bottom of the unit.
3. Attach the rack angle with the screws (+B4x10)
4. Remove the inner member from the slide rail that is mounted on the console.
5. Attach the inner member of the slide rail with the screws. (+B4x10)

1-11. ACCESSORIES

.Power cable (3)
.Operation Manual (1)
.Maintenance Manual (1)
.Pulg Holder (1)
.Harnes(unit) (1)
.Harnes (A102) (1)
.Extension board (1)

第2章
サービスインフォメーション

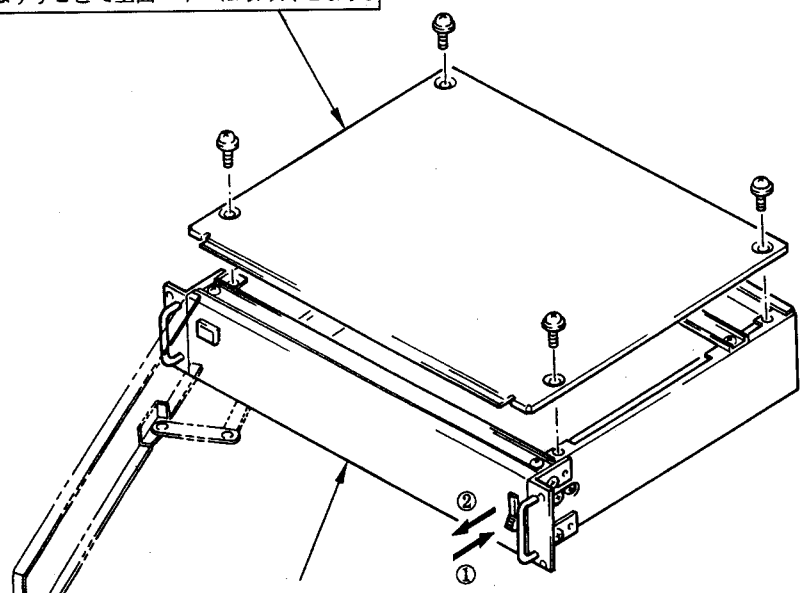
2−1. コンソールからの取り外し

・接続されているコネクターを抜き，コンソールから静かに引き抜いて下さい。

2−2. 外装の開閉／取り外し

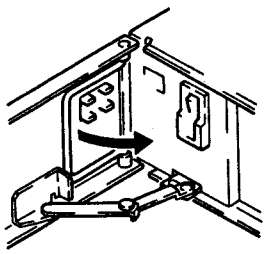
上面パネル

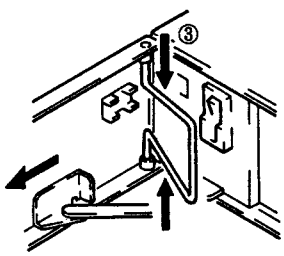
4本のネジをはずすことで上面パネルは取り外せます。



フロントパネル

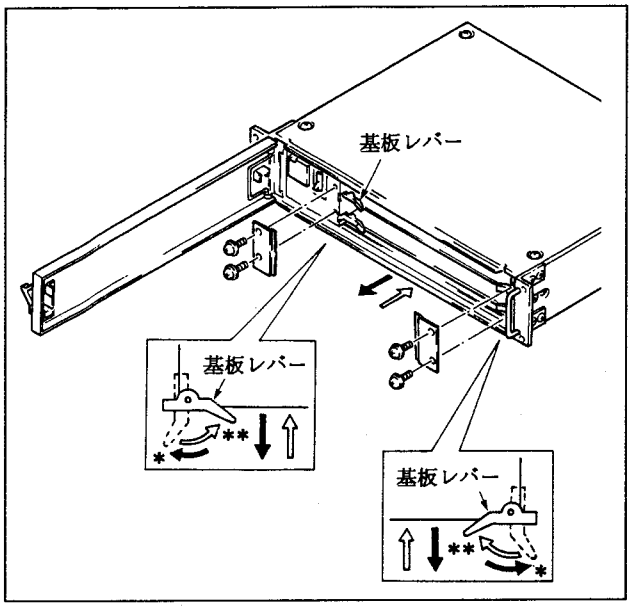
把手の下部を矢印①方向に押した後，②方向に動かします。これによりフロントパネルは開きます。さらにヒンジ部分のシャフトをおこし③方向に押すとフロントパネルを取りはずすことができます。





2−3. カード基板の取り付け／取り外し方

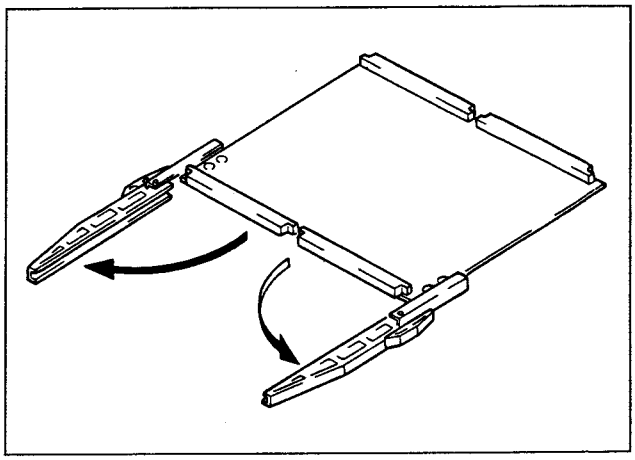
- 基板レバーを矢印＊の方向へ押し手前に引くと，取り外すことができます。
- 基板レバーガイド，基板ガイドに沿って，挿入します。基板レバーを本体の左右の穴に入れながら矢印＊＊方向に倒すと基板を取り付けることができます。



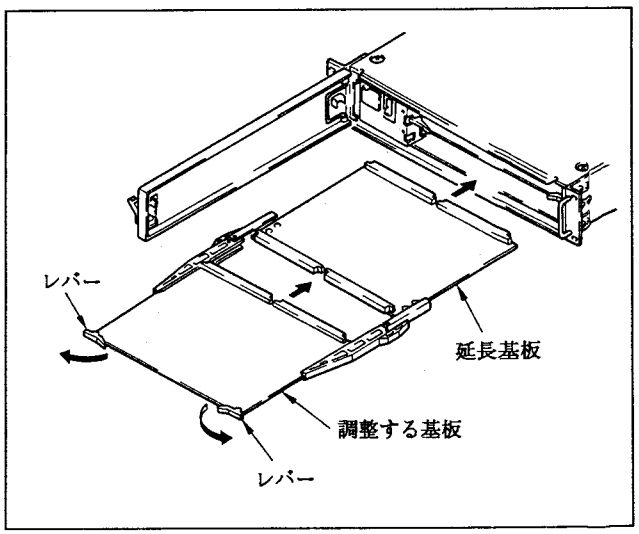
2−4. サービス方法

- CPU-68，VSW-21基板の調整方法

(1) 延長基板のレールを開きます。



(2) レバーを外側に押し開いて調整基板を抜き，延長基板を差し込みます。



2－5．回路構成

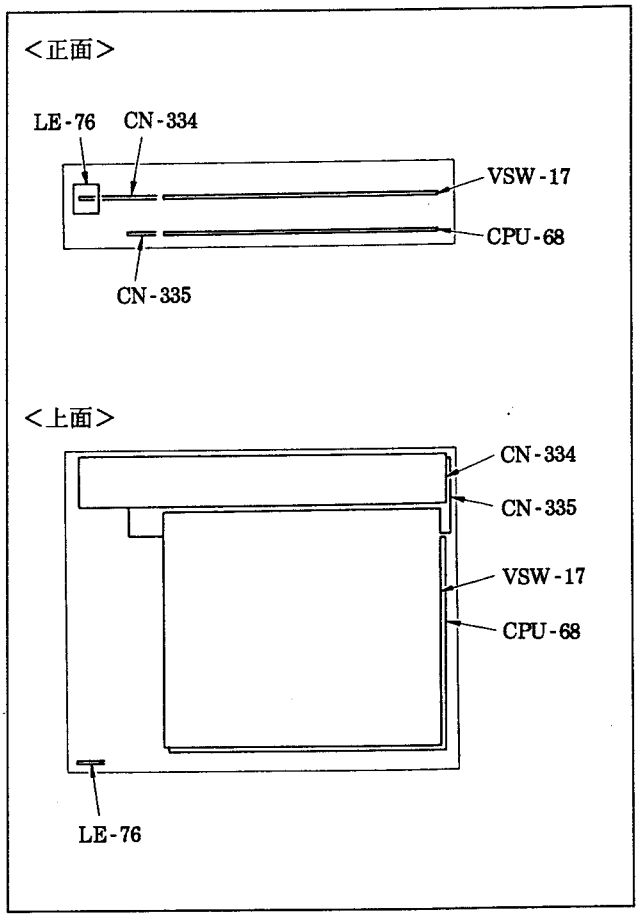
2－5－1．BVS-V1212

名　称	機　能
CN-334	コネクターボード
CN-335	REF DA ボード
CPU-68	CPU ボード
LE-76	LED ボード
VSW-21	ビデオマトリックスボード

2－5－2．BKS-R1210

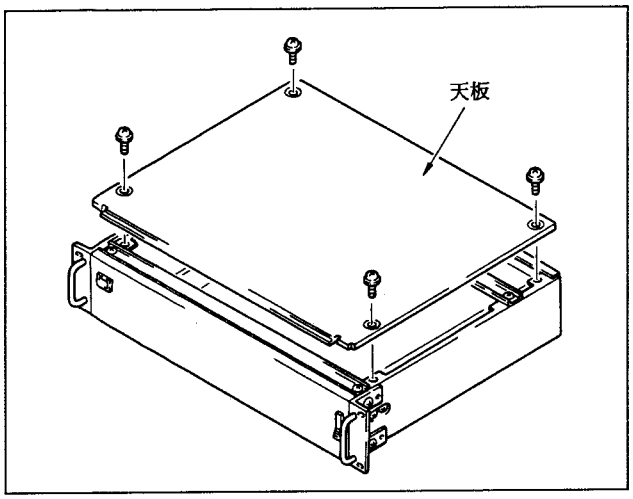
名　称	機　能
SW-354	スイッチボード

2－6．基板配置図

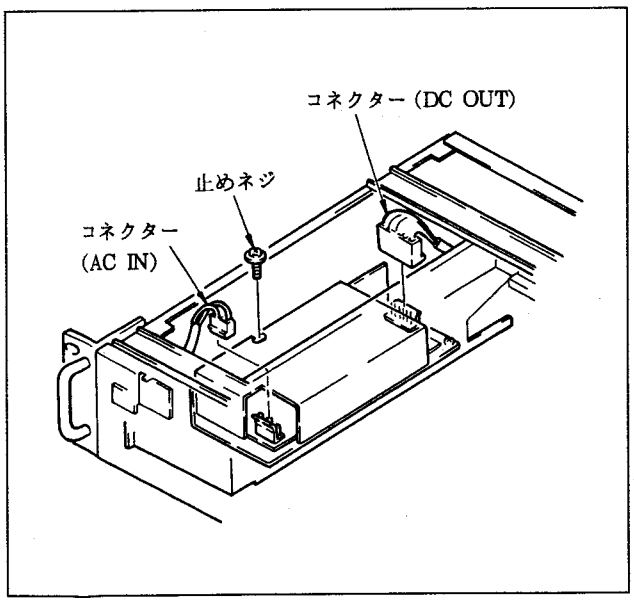


2−7. 電源の取り外し

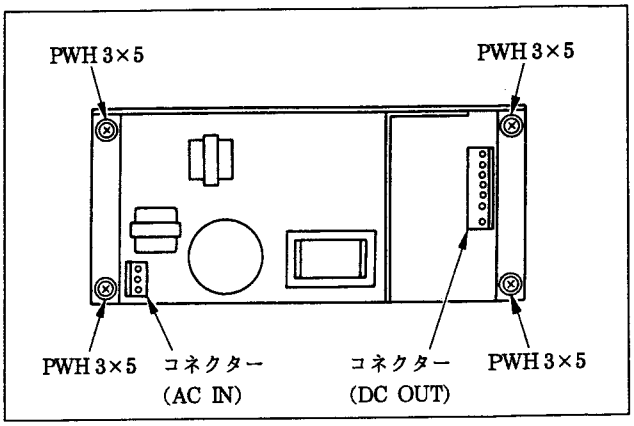
(1) 天板を外します。



(2) 電源のコネクター(前後2ヶ所)を抜きます。
(3) シールドケースの止めネジを外すと，上にぬけます。



(4) 電源を止めているネジをはずします。



2−8 サービス部品

1. 回路図，分解図，電気部品リスト中で⚠及び▒で囲まれた部品は，安全性を維持するために重要な部品です。従ってこれらの部品を交換する時には必ず指定の部品と交換して下さい。

2. パーツセンターから供給される部品は，実際にセットに使用している部品と形状等が異なることが時々あります。これらは「部品の共通化」等によるものです。

3. 分解図，電気部品リスト中SP欄がOで示されている部品は交換頻度が低い部品ですので，在庫していないことがあり，納期が長くなることがあります。

SECTION 2
SERVICE INFORMATION

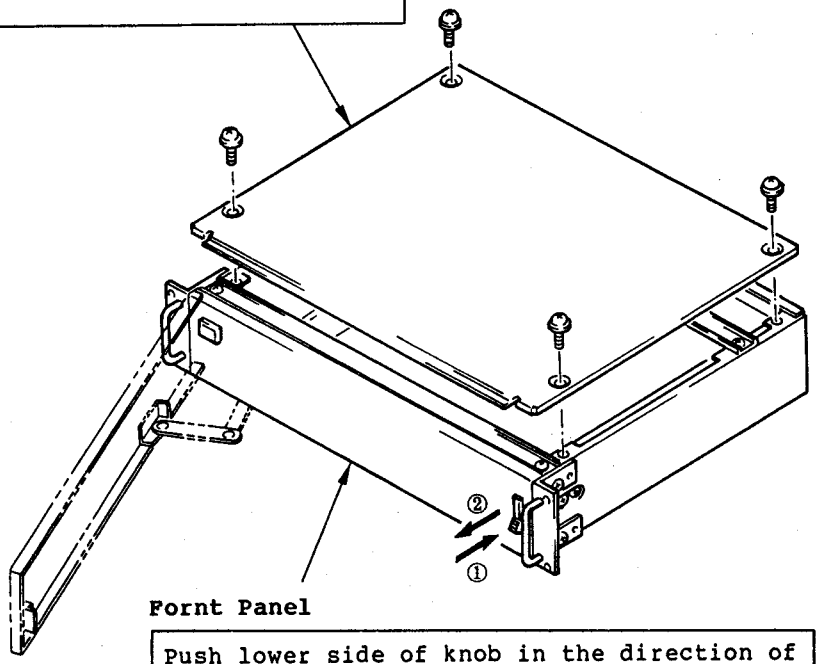
2-1. REMOVAL FROM THE CONSOLE

.Remove all connectors and slowly pull out
the from the console.

2-2. OPENING/REMOVAL OF CABINET

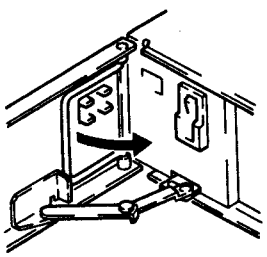
Upper Panel

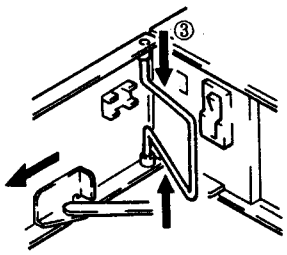
Loosen the four fixing screws and remove the Upper.



Fornt Panel

Push lower side of knob in the direction of arrow ①.
Move knob in the direction of arrrow ②.
Then pull up the shaft of the hinge portion and push it in the diection of ③.
The front panel can be remove.

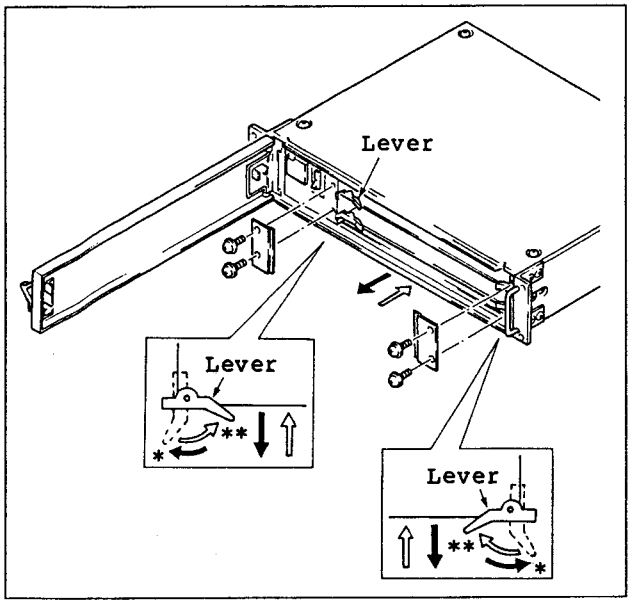




2-3. REMOVAL/INSTALL PROCEDURE

.Pushing in the direction of the *, pull out by the lever. The card board can be removed.

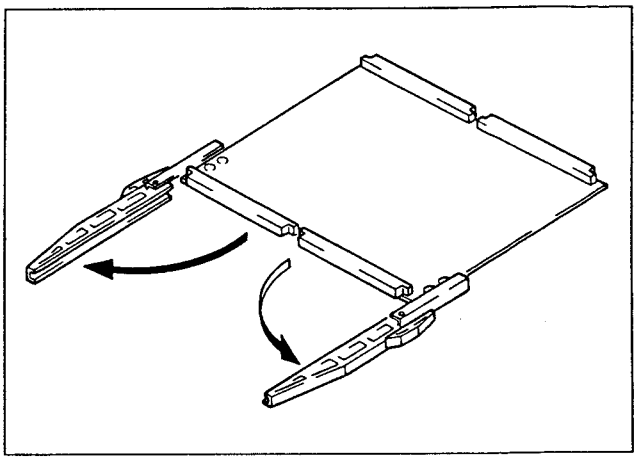
.Insert the board along with the lever guide and the board guide. Insert the levers in the right and left holes of the body and push them down in the direction of ** to install the board.



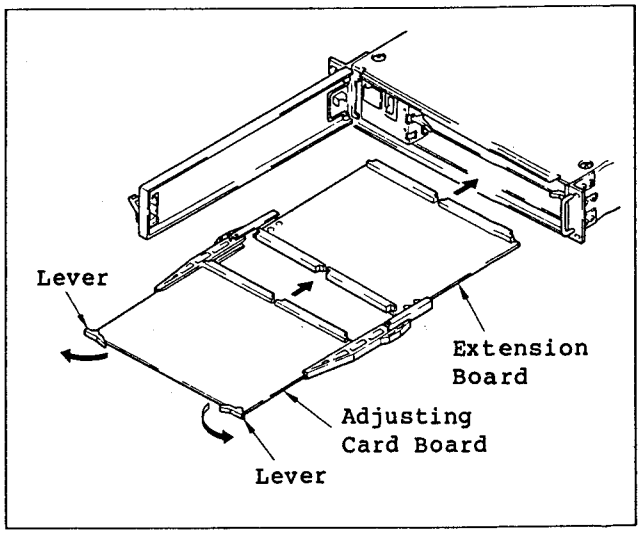
2-4. SERVICE

Adjusting card board (CPU-68 board)

(1) Open the rail of the extension board.



(2) Pull out the lever out side and remove the board to be adjusted then attach the extension board.



2-5. CIRCUT CONFIGURATION

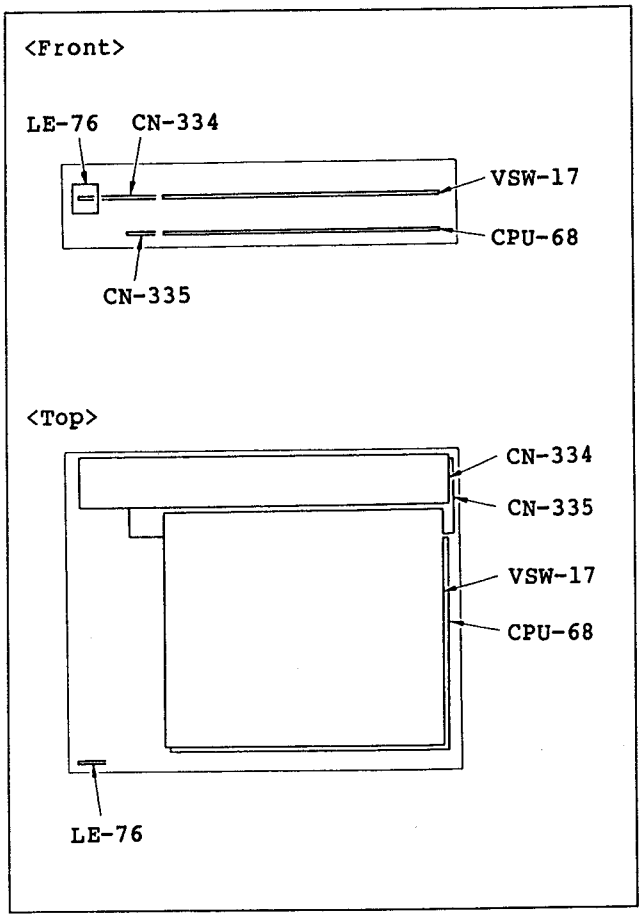
2-5-1. BVS-V1212

Board Name	Functions
CN-334	CONNECTOR BOARD
CN-335	REF DA BOARD
CPU-68	CPU BOARD
LE-76	LED BOARD
VSW-21	VIDEO MATRIX BOARD

2-5-2. BKS-R1210

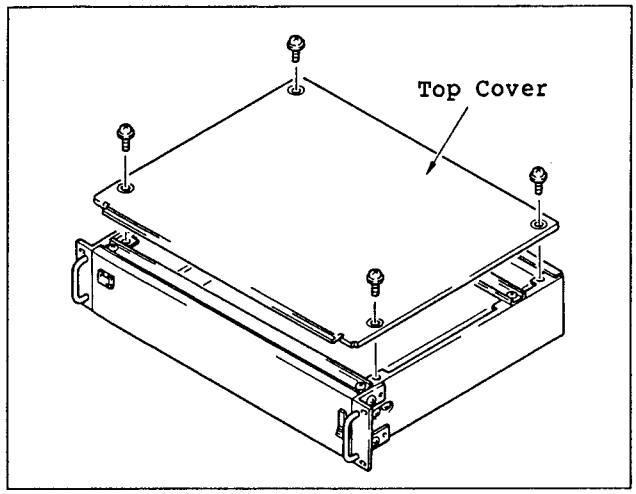
Board Name	Functions
SW-354	SWITCH BOARD

2-6. LAYOUT OF THE PRINT BOARD



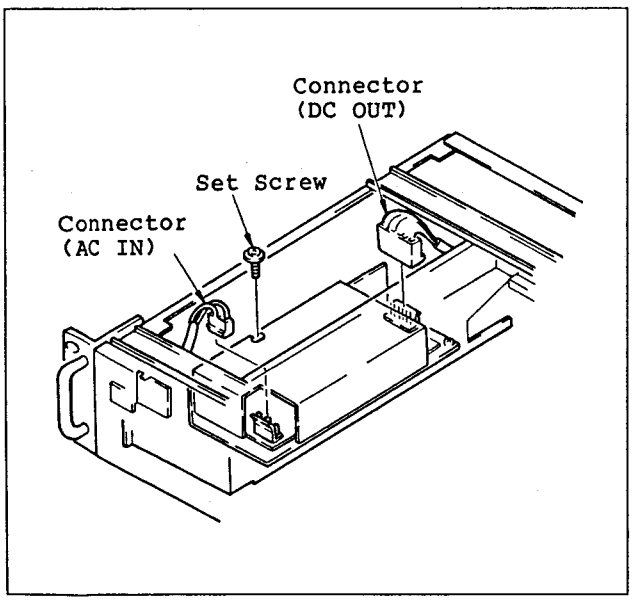
2-7. HOW TO REMOVE SWITCHING REGULATOR

(1) Remove the top cover.

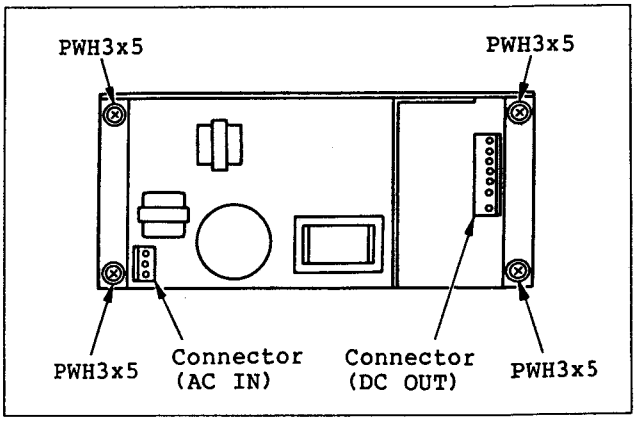


(2) Remove two connectors (front and back).

(3) Remove the screw of the shield case.



(4) Remove four screws tightened the switching regulator.



2-8. NOTES ON REPAIR PARTS

(1) Safety Related Components Warning

Components identified by shading marked with ⚠ on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose part numbers appear in this manual or in service bulle tins and service manual supplements published by Sony.

(2) Standardization of Parts

Repair parts supplied from Sony Parts Center may not be always identical with the parts which actually in use due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts".

This manual's explded views and electrical spare parts list are indicating the part numbers of "the standardized genuine parts at present".

(3) Stock of Parts

Parts marked with "o" SP (supply Code) column of the spare parts list are not normally required for routine service work. Orders for parts marked withe "o" will be processed, but allow for additional delivery time.

第3章
テストモード

3−1. 起動方法

CPU-68基板上のS1-1をOPENにして電源を立ち上げる，もしくは，S11のリセットボタンを押すと，
テストモードになります。
テスト項目はS1-2～6を使って設定します。

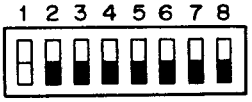
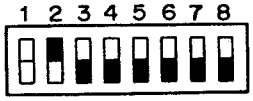
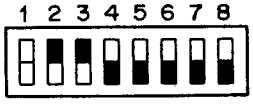
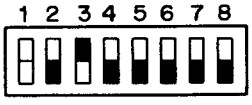
3−2. 終了方法

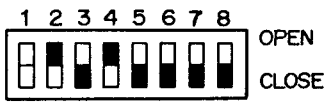
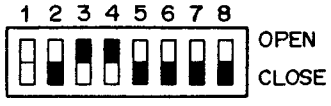
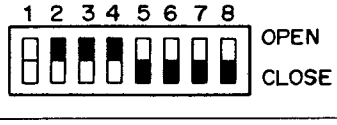
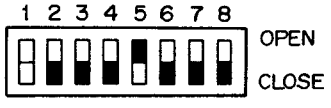
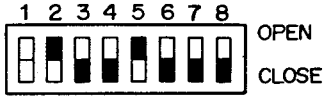
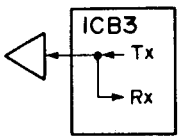
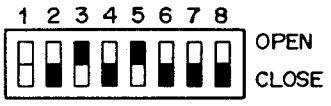
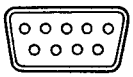
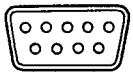
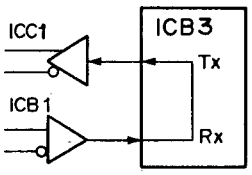
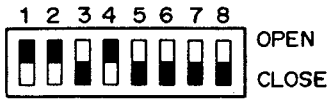
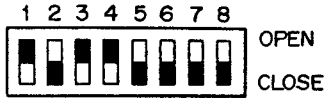
CPU-68基板上のS1-1をCLOSEにして，S11のリセットボタンを押すとテストモードは解除されます。

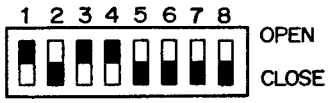
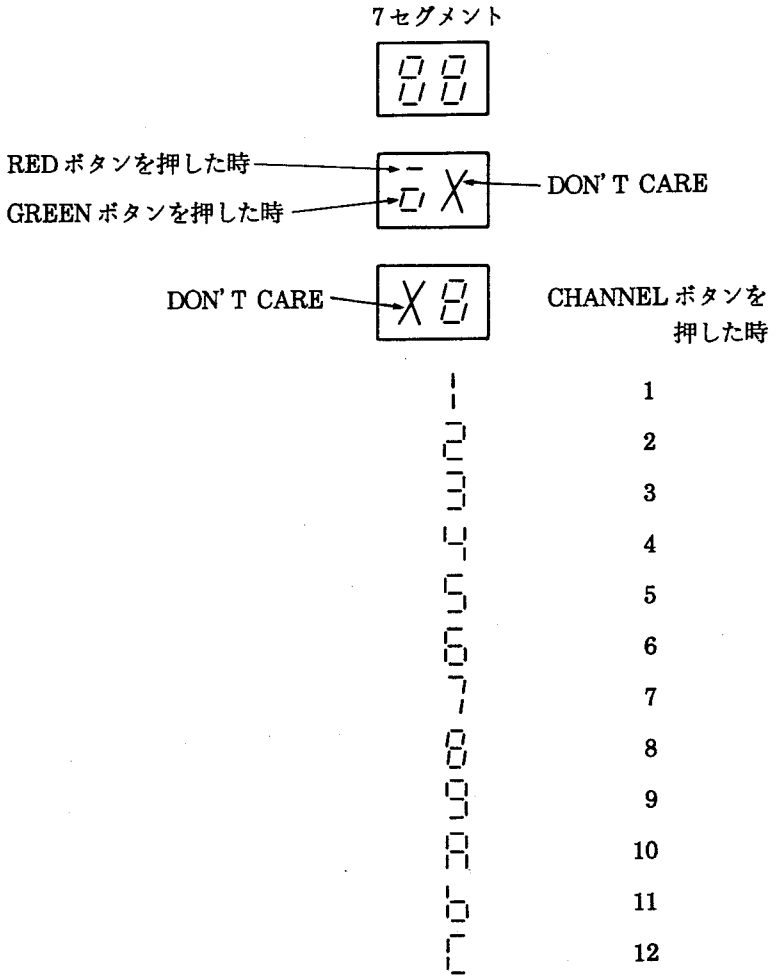
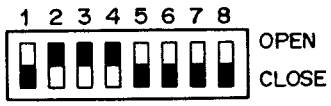
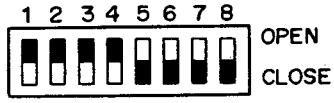
3−3. 手順

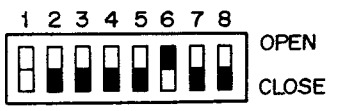
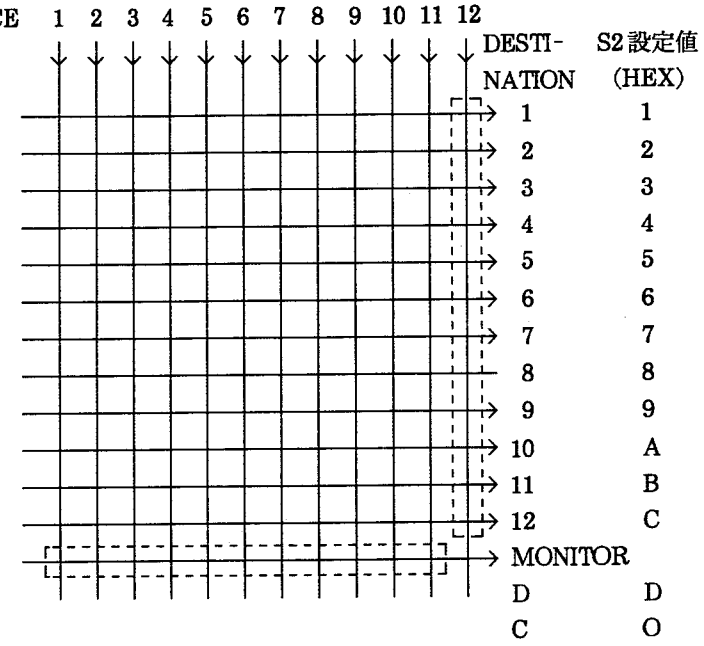
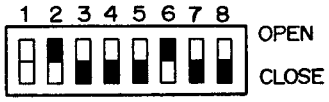
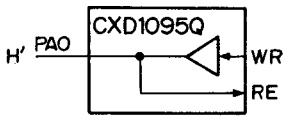
Step 1.
S1-1をCLOSEにしてテスト項目入力待ち状態にします。
Step 2.
S1-2～6を使って項目を設定します。
Step 3.
S1-1をOPENにして，そのテスト項目の内容を実行します。
(3-4テストモード参照)
Step 4.
S1-1をCLOSEにして，そのテスト項目を終了します。
(Step 1. テスト項目の入力待ちの状態に戻ります)

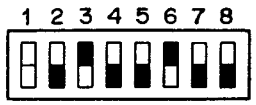
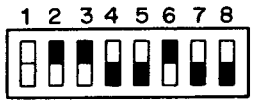
3−4. テストモード

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内　容
0		ND1　7セグメントLEDチェック 00→11→22→33→……→FF→　を繰り返します。
1		BZ1　ブザーON 注）JW2をENAに設定して下さい。
2		S1チェック　　結果を7セグメントLEDにHEX表示します。
3		S2，3チェック  結果を7セグメントLEDにHEX表示します。
4		S4チェック　　結果を7セグメントLEDにHEX表示します。

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内　容
5		S5チェック　　結果を7セグメントLEDにHEX表示します。
6		S6,7チェック S6 S7　結果を7セグメントLEDにHEX表示します。
7		S8,9チェック S8 S9　結果を7セグメントLEDにHEX表示します。
8		未定義
9		ICB3 UPD72001C LOCAL SELF テスト ICB3 UPD72001CとICE4 UPD70320間の制御バスの確認をします。  正常時　7セグメントLEDに"00"表示します。 NG時　7セグメントLEDに"FF"表示し， 制御バスの確認が必要です。
A		ICB3 UPD72001C ECHO LOOP テスト REMOTE 1及び2とICB3 UPD72001C間のつながりの確認ができます。 REMOTE 1からの入力をそのままECHO BACKしています。 REMOTE 1  REMOTE 2  
B		未定義
C		RAM WRITE／REEAD ICB6 RAMとICE4 UPD70320間の制御バスの確認をします。 正常時　7セグメントLED"00"に表示します。 NG時　7セグメントLED"FF"に表示し，制御バスの確認が必要です。

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内　容
D		BKS-R1210 ECHO BACK テスト（Xpt No. はかわりません） 7 セグメント LED にてボタン入力が確認できます。 
E		未定義
F		REF VIDEO 入力及び ICG2 LM1881M の確認ができます。 REF 入力　無　“00” REF 入力　有　FRAME パルス有　“1F” REF 入力　有　FRAME パルス無　“10” ⇨ ICG2 LM1881M 7 番ピンの確認が必要です。

項目 (HEX)	スイッチのセッティング (OPEN=ON, CLOSE=OFF)	内　容
10		S2とS3の組み合わせによりXptを切り換えます。 注）この時BKS-R1210からのコントロールはできません。 基本的にはS2がDESTINATIONを指示し，S3がSOURCEを指示します。 S3の設定値 (HEX) 1 2 3 4 5 6 7 8 9 A B C SOURCE 1 2 3 4 5 6 7 8 9 10 11 12  S2が“E”“F”の時はDESTINATION 1～12とMONITORの DESTINATION側を一斉にS3の設定値に切り換えます。 S3=0, D, E, Fの時は，約1秒おきに1→2→3→……→11→12→1と SOURCEを切り換えます。
11		MATRIX 1 (CS1側) のCXD1095Qのポート出力確認 PA 0からPE 4まで，約1秒おきにHIGH LEVELにすると同時に， READして確認します。  7-SEG LEDには今，出力しているポート名を表示します。 (例) PA1 [A1] 入出力が異なっていればそのポートにて終了し，ブザーを鳴らします。 この時はCXD1095Qのポートを確認する必要があります。 正常終了時は，[--] となります。

<table>
<tr><th>項目
(HEX)</th><th>スイッチのセッティング
(OPEN=ON, CLOSE=OFF)</th><th>内　容</th></tr>
<tr><td>12</td><td> 
</td><td>MATRIX 2 (CS2側) の CXD1095Q を確認します。
項目 11 と同じ</td></tr>
<tr><td>13</td><td> 
</td><td>VISTB パルス出力テスト
ICB7 12番ピンにて VISTB パルス出力を確認できます。
<table>
<tr><th></th><th>S2</th><th>7-SEG 表示</th><th>出力形式</th></tr>
<tr><td>REF 入力無</td><td>—</td><td>“d”</td><td>16～18 msec インターバル</td></tr>
<tr><td rowspan="4">REF 入力有</td><td>0</td><td>“d”</td><td>16～18 msec インターバル</td></tr>
<tr><td>1</td><td>“F”</td><td>毎 Field</td></tr>
<tr><td>2</td><td>“F1”</td><td>毎 ODD Field</td></tr>
<tr><td>3</td><td>“F2”</td><td>毎 EVEN Field</td></tr>
</table></td></tr>
</table>

SECTION 3
TEST MODE

3-1. HOW TO MOVE

When SW1-1 on the CPU-68 board is turned OPEN the set is on, or RESET button of SW11 is push, the TEST MODE is active.
The TEST MODE is set by using from SW1-2 to SW1-6.

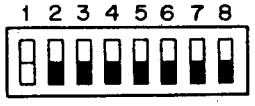
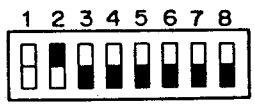
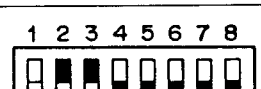
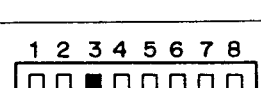
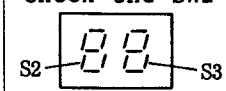
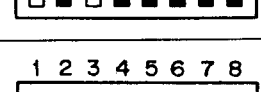
3-2. HOW TO CLOSE

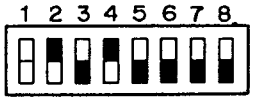
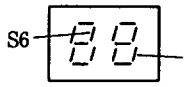
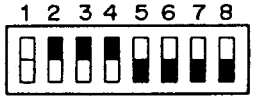
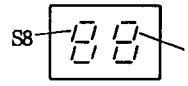
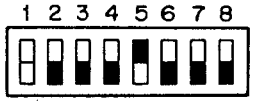
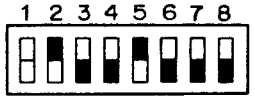
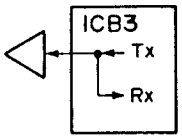
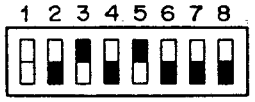
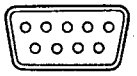
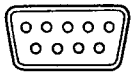
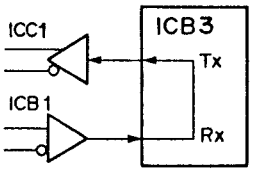
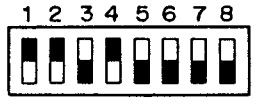
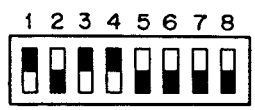
Cancel the TEST MODE setting to CLOSE SW1-1 and RESET button of SW11 is push on the CPU-68 board.

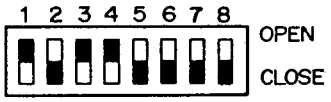
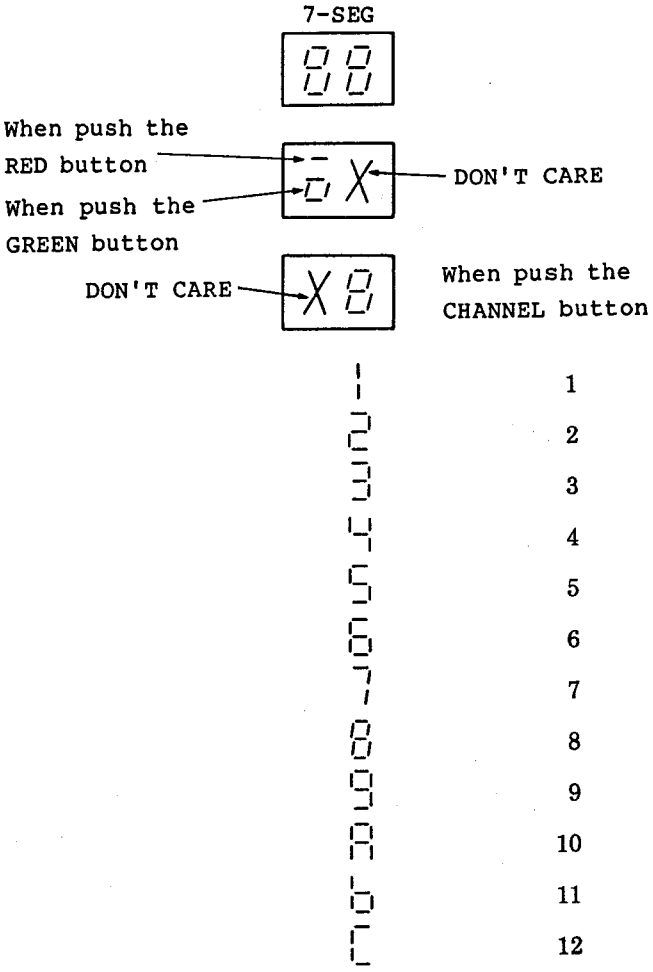
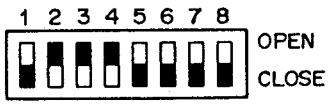
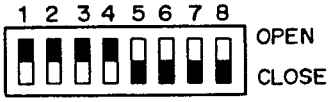
3-3. ARRANGEMENTS

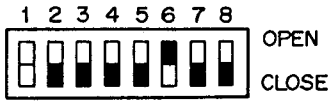
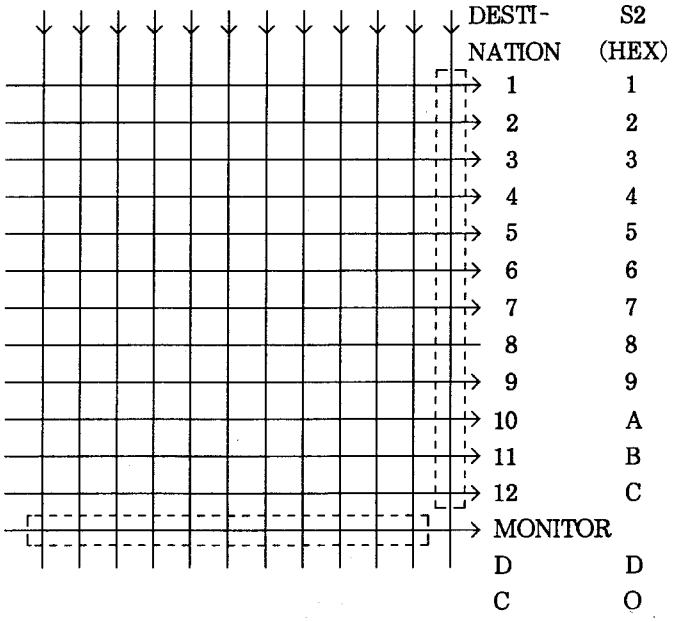
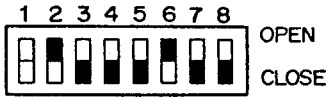
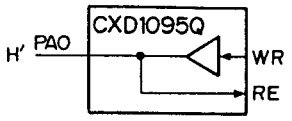
step1
  SW1-1 is set to CLOSE, and put the unit into performing TEST items.
step2
  Set the items using from SW1-2 to SW1-6.
step3
  Set the SW1-1 to OPEN, perform the contents of the TEST items.
  (Refer to function of 3-4 TEST MODE for details).
step4
  Set the SW1-1 to CLOSE, finish the TEST items.
  (Return the state of step1.)

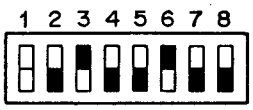
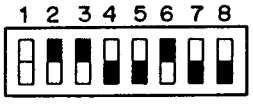
3-4. TEST MODE

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
0		Check the ND1 7-SEGMENT LED Repeat the 00→11→22→33→·····→FF→00.
1		BZ1 buzzer ON note) Set the JW2 to ENA.
2		Check the SW1 The results is displayed HEX in 7-SEG LED.
3		Check the SW2 and 3.  The results is displayed HEX in 7-SEG LED.
4		Check the SW4 The results is displayed HEX in 7-SEG LED.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
5		Check the SW5 The results is displayed HEX in 7-SEG LED.
6		Check the SW6 and 7.  The results is displayed HEX in 7-SEG LED.
7		Check the SW8 and 9.  The results is displayed HEX in 7-SEG LED.
8		Undefinition
9		ICB3 UPD72001C LOCAL SELF TEST Check the control bus between ICB3 UPD72001C and ICE4 UPD70320.  OK display "00" in 7-SEG LED. NG display "FF" in 7-SEG LED, and need to check the control bus.
A		ICB3 UPD72001C ECHO LOOP TEST Check the relations between REMOTE 1 and 2, and ICB3 UPD72001C and ECHO BACK inputs from TEMOTE 1 as it is. REMOTE 1  REMOTE 2  
B		Undifinition
C		RAM WRITE/READ Check the control bus between ICB6 RAM and ICE4 UPD70320 OK display "00" in 7-SEG LED. NG display "FF" in 7-SEG LED, and need to check the control bus.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
D		BKS-R1210 ECHO TEST (No change X'pt NO.) Check the buttons inputs in 7-SEGMENT LED. 
E		Undifinition
F		Check the REF VIDEO and the ICG2 LM1881M. REF input (disable) "00" REF input (enable) FRAME pluse enable "1F" REF input (enable) FRAME pluse disable "10" ⇨ Need to check the seventh pin of ICG2 LM1881M.

Items (HEX)	Setting of switches (OPEN=ON, CLOSE=OFF)	Contents
10		Change the Xpt by conbination SW2 and 3. note) Disable to control from BKS-R1210. Fundamentally, SW2 display the destination, and SW3 display the source. S3 (HEX) 1 2 3 4 5 6 7 8 9 A B C SOURCE 1 2 3 4 5 6 7 8 9 10 11 12  When SW2 is set to E and F, change the side destination of monitor and from destination 1 to 12 to setting number of SW3 all together. When SW3 equal 0, D, E, F, SOURCE is changed about every other second 1→2→3→·····→11→12→1.
11		Check the port outputs CXD1095Q of MATRX 1 (the side of CS1) Set to HIGH LEVEL about every other second, at the same time, check READ from PA0 to PE4.  Display the port name of output in 7-SEG (Exm.) PA1 [A1] If input and output are different, finished the port. Need to check the port of CXD1095Q. When the port out is finished, displayed [--].

<table>
<tr><th>Items
(HEX)</th><th>Setting of switches
(OPEN=ON, CLOSE=OFF)</th><th>Contents</th></tr>
<tr><td>12</td><td> 
</td><td>Check the CXD1095Q of MATRIX2 (the side of CS2).
The same as Item 11.</td></tr>
<tr><td>13</td><td> 
</td><td>VISTB PULSE output test
Enable to check VISTB PLUSE output in ICB7-12 pin.
<table>
<tr><th></th><th>S2</th><th>7-SEG displayed</th><th>Output form</th></tr>
<tr><td>REF input (disable)</td><td>–</td><td>“d”</td><td>16 msec interval</td></tr>
<tr><td rowspan="4">REF input (enable)</td><td>0</td><td>“d”</td><td>16 msec interval</td></tr>
<tr><td>1</td><td>“F”</td><td>every field</td></tr>
<tr><td>2</td><td>“F1”</td><td>every ODD field</td></tr>
<tr><td>3</td><td>“F2”</td><td>every EVEN field</td></tr>
</table></td></tr>
</table>

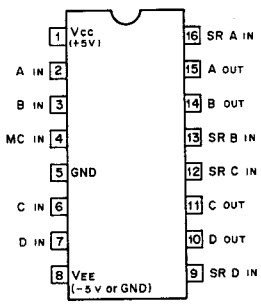
SECTION 6
SEMICONDUCTOR ELECTRODES

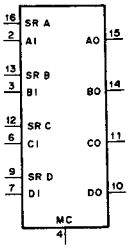
ここに記載されているIC，トランジスタ，ダイオードは，それぞれの機能を等価的に表わしたものです。したがって互換性を表わすものではありません。(互換性のない型名が併記されている事もあります。) 部品の交換をする時は，SPARE PARTS の章を参照して下さい。

ICs, transistors and diodes whoses functions are equivalent are described here. Therefore, incompatible device names may be described together. For parts replacement, refer to the Spare Parts section in this manual.

IC

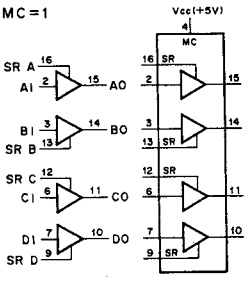
AM26LS30PC (ADVANCED MICRO DEVICES)
LINE DRIVER
— TOP VIEW —





MC ; MODE CONTROL
SR ; SLEW RATE CONTROL

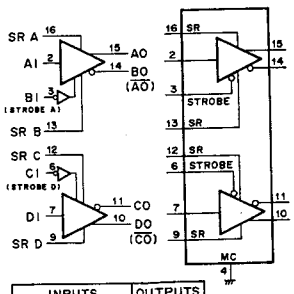
MC=1



INPUTS		OUTPUTS
MC	A TO D	A TO D
1	0	0
1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL

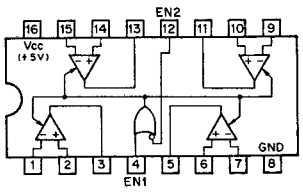
MC=0



INPUTS			OUTPUTS	
MC	STROBE	A & D	A & D	B & C
0	0	0	0	1
0	0	1	1	0
0	1	X	HI-Z	HI-Z

X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

AM26LS32PC (ADVANCED MICRO DEVICES)
HIGH SPEED DIFFERENTIAL LINE RECEIVER
— TOP VIEW —



FUNCTION TABLE		
EN2	EN1	OUTPUT
0	0	ENABLE
0	1	ENABLE
1	0	HI-Z
1	1	ENABLE

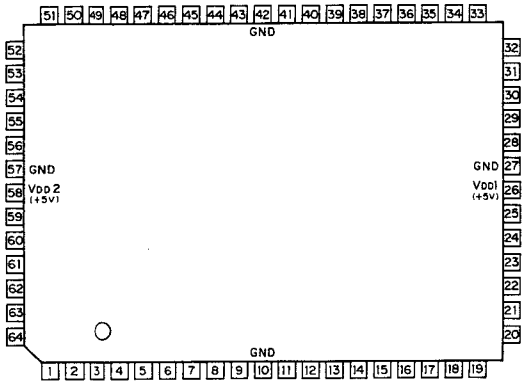
0 ; LOW LEVEL
1 ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

	SENSE	INPUT VOLT
LS32	±200mV	±7V
LS33	±500mV	±15V

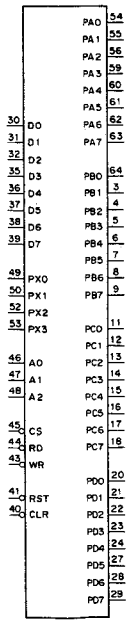
等価回路はICメーカーのData Bookに従いました。

The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

CXD1095Q (SONY) FLAT PACKAGE
C-MOS I/O PORT EXPANDER
— TOP VIEW —



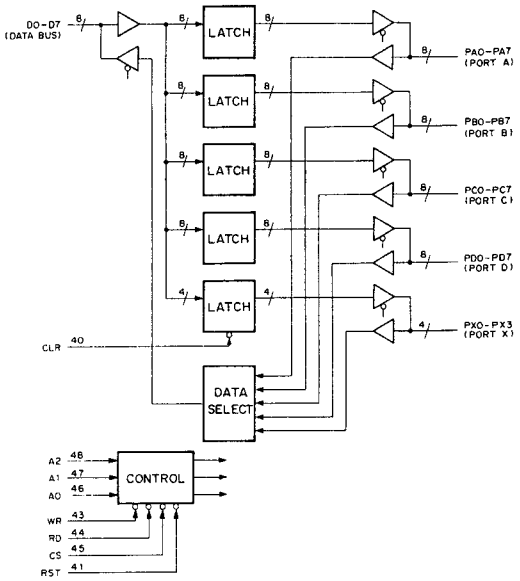
PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL	PIN NO.	IN	OUT	SYMBOL
1			NC	17	O	O	PC6	33			NC	49	O	O	PX0
2			NC	18	O	O	PC7	34			NC	50	O	O	PX1
3	O	O	PB1	19			NC	35	O	O	D3	51			NC
4	O	O	PB2	20	O	O	PD0	36	O	O	D4	52	O	O	PX2
5	O	O	PB3	21	O	O	PD1	37	O	O	D5	53	O	O	PX3
6	O	O	PB4	22	O	O	PD2	38	O	O	D6	54	O	O	PA0
7	O	O	PB5	23	O	O	PD3	39	O	O	D7	55	O	O	PA1
8	O	O	PB6	24	O	O	PD4	40	O		CLR	56	O	O	PA2
9	O	O	PB7	25			GND	41	O		RST	57			GND
10			GND	26	O		VDD (+5V)	42			GND	58	O		VDD (+5V)
11	O	O	PC0	27	O	O	PD5	43	O		WR	59	O	O	PA3
12	O	O	PC1	28	O	O	PD6	44	O		RD	60	O	O	PA4
13	O	O	PC2	29	O	O	PD7	45	O		CS	61	O	O	PA5
14	O	O	PC3	30	O	O	D0	46	O		A0	62	O	O	PA6
15	O	O	PC4	31	O	O	D1	47	O		A1	63	O	O	PA7
16	O	O	PC5	32	O	O	D2	48	O		A2	64	O	O	PB0



CS	RD	WR	A2	A1	A0	MODE
0	0	1	0	0	0	PORT A → DATA BUS
0	0	1	0	0	1	PORT B → DATA BUS
0	0	1	0	1	0	PORT C → DATA BUS
0	0	1	0	1	1	PORT D → DATA BUS
0	0	1	1	0	0	PORT X → DATA BUS
0	0	1	1	0	1	——
0	0	1	1	1	0	——
0	0	1	1	1	1	——
0	1	0	0	0	0	DATA BUS → PORT A
0	1	0	0	0	1	DATA BUS → PORT B
0	1	0	0	1	0	DATA BUS → PORT C
0	1	0	0	1	1	DATA BUS → PORT D
0	1	0	1	0	0	DATA BUS → PORT X
0	1	0	1	0	1	——
0	1	0	1	1	0	DATA BUS → CTL REG.1
0	1	0	1	1	1	DATA BUS → CTL REG.2
1	X	X	X	X	X	DATA BUS ; HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z , HIGH IMPEDANCE

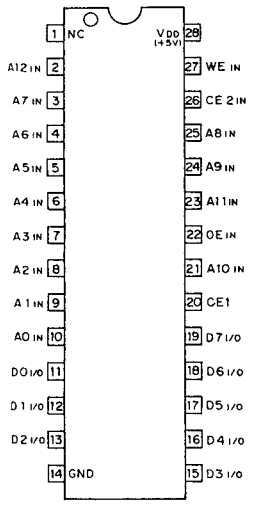
D0-D7 ; DATA BUS INPUTS/OUTPUTS
CS ; CHIP SELECT INPUT
RD ; READ STROBE INPUT
WR ; WRITE STROBE INPUT
A0-A2 ; ADDRESS INPUT
RST ; RESET INPUT
CLR ; CLEAR INPUT
PA0-PA7 ; PORT A INPUTS/OUTPUTS
PB0-PB7 ; PORT B INPUTS/OUTPUTS
PC0-PC7 ; PORT C INPUTS/OUTPUTS
PD0-PD7 ; PORT D INPUTS/OUTPUTS
PX0-PX3 ; PORT X INPUTS/OUTPUTS

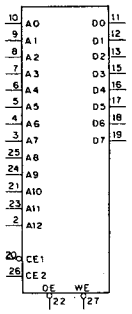


CXK5864P-10 (SONY) (ACCESS TIME = 100nS)

C-MOS 64K (8Kx8-BIT) STATIC RAM

– TOP VIEW –



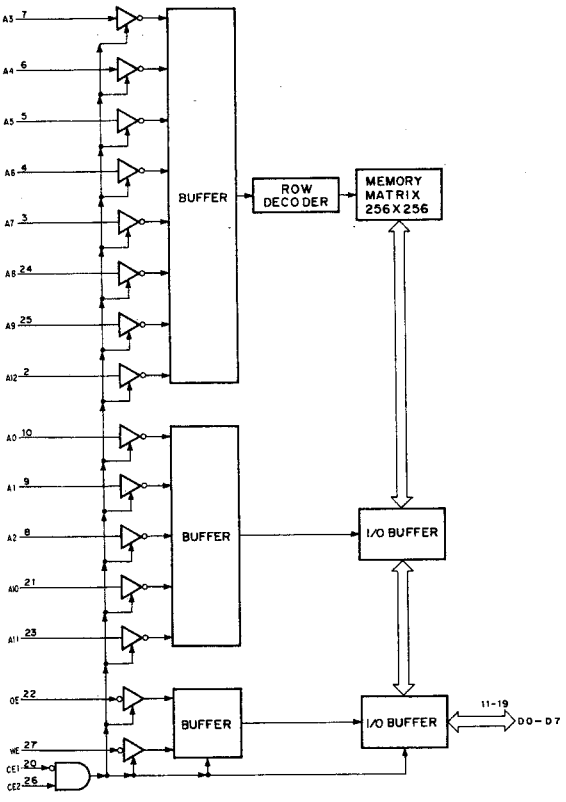


A0 – A12 ; ADDRESS INPUTS
CE1, CE2 ; CHIP ENABLE 1, 2 INPUTS
D0 – D7 ; DATA INPUTS / OUTPUTS
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT

MODE SELECTION

CONTROL INPUTS				MODE
CE 1	CE 2	OE	WE	
1	X	X	X	NO CHANGE
X	0	X	X	NO CHANGE
0	1	1	1	DISABLE OUTPUT
0	1	0	1	READ
0	1	X	0	WRITE

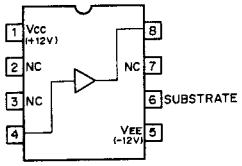
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE



HA3-5033 (HARRIS)

VIDEO BUFFER

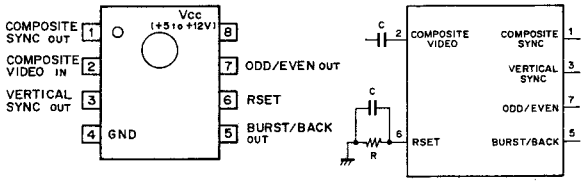
– TOP VIEW –



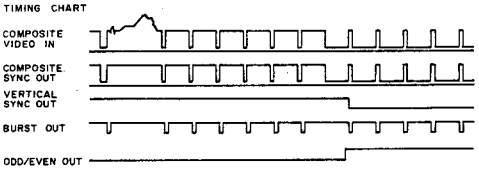
LM1881M (NS) FLAT PACKAGE

VIDEO SYNC SEPARATOR

– TOP VIEW –



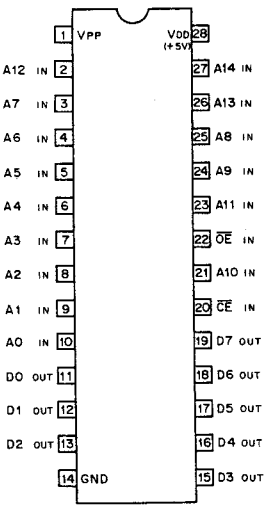
TIMING CHART

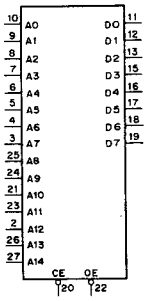


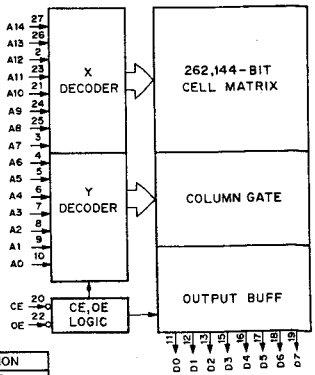
MBM27C256A-20CZ (FUJITSU) (ACCESS TIME=200nS)

C-MOS 256K (32Kx8)-BIT ERASABLE PROM WITH 3-STATE OUTPUTS

– TOP VIEW –







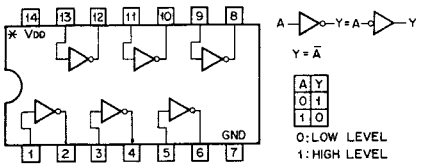
A0 – A14 : ADDRESS INPUT
$\overline{CE}$: CHIP ENABLE INPUT
D0 – D7 : DATA OUTPUT
$\overline{OE}$: OUTPUT ENABLE INPUT
V_{PP} : PROGRAM POWER SUPPLY

An	$\overline{CE}$	$\overline{OE}$	V_{PP}	Dn	FUNCTION
An	0	0	+ 5V	D_{OUT}	READ
An	0	1	+ 5V	HI-Z	OUTPUT DISABLE
X	1	X	+ 5V	HI-Z	STANDBY
An	0	1	+ 21V	D_{IN}	PGM
An	0	0	+ 21V	D_{OUT}	PGM VERIFY
X	1	1	+ 21V	HI-Z	PGM INH

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE
HI-Z : HIGH IMPEDANCE

SN74HC04NS (TI) FLAT PACKAGE
SN74HCU04NS (TI) FLAT PACKAGE

C-MOS INVERTER
– TOP VIEW –



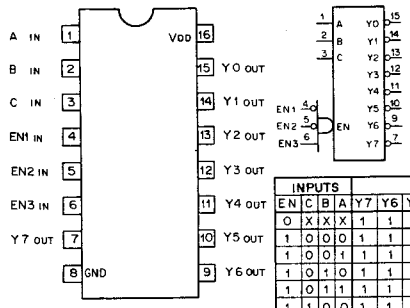
A	Y
0	1
1	0

0: LOW LEVEL
1: HIGH LEVEL

* VDD HC, HCU; +2 to +6V
HCT; +5V

SN74HC138NS (TI) (V_{cc} = +2 to +6V) FLAT PACKAGE

C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
– TOP VIEW –



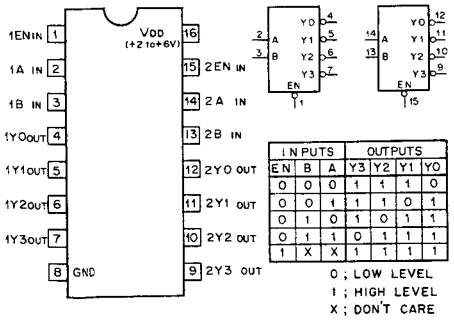
INPUTS				OUTPUTS							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

EN = $\overline{EN1} \cdot \overline{EN2} \cdot EN3$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC139N (TI) (V_{cc} = +2 to +6V)

C-MOS 1-OF-4 DECODER/DEMULTIPLEXER
– TOP VIEW –

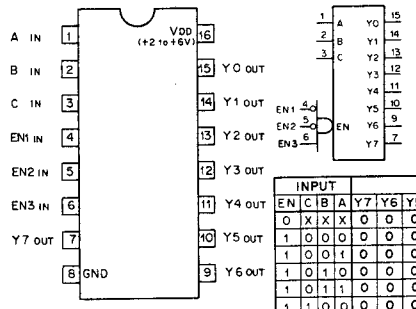


INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

SN74HC238NS (TI) FLAT PACKAGE

C-MOS 3-TO-8 LINE DECODER/DEMULTIPLEXER
— TOP VIEW —



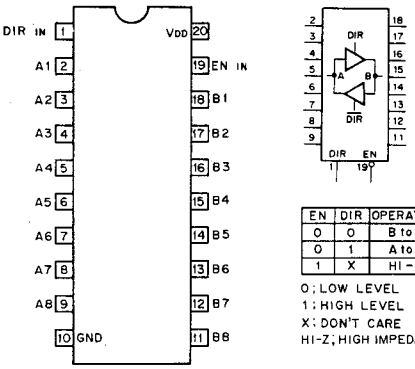
INPUT				OUTPUT							
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0	0	0	1
1	0	0	1	0	0	0	0	0	0	1	0
1	0	1	0	0	0	0	0	0	1	0	0
1	0	1	1	0	0	0	0	1	0	0	0
1	1	0	0	0	0	0	1	0	0	0	0
1	1	0	1	0	0	1	0	0	0	0	0
1	1	1	0	0	1	0	0	0	0	0	0
1	1	1	1	1	0	0	0	0	0	0	0

EN = $\overline{EN1} \cdot \overline{EN2} \cdot EN3$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

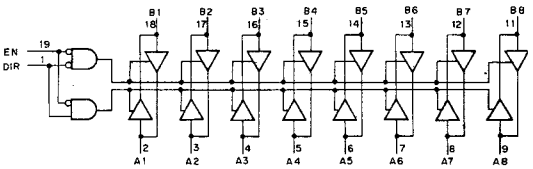
SN74HC245NS (TI) (V_{cc} = +2 to +6V) FLAT PACKAGE

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS
– TOP VIEW –



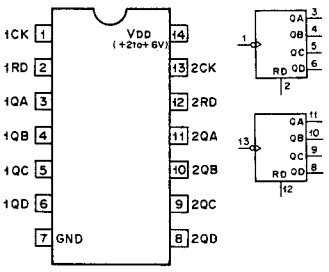
EN	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI – Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

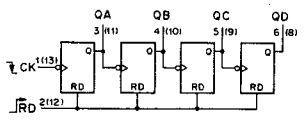


SN74HC393NS (TI) FLAT PACKAGE

C-MOS 4-BIT BINARY COUNTER
– TOP VIEW –



COUNT SEQUENCE				
COUNT	QD	QC	QB	QA
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
10	1	0	1	0
11	1	0	1	1
12	1	1	0	0
13	1	1	0	1
14	1	1	1	0
15	1	1	1	1



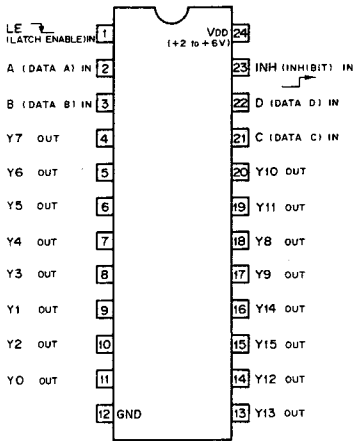
RESET/COUNT FUNCTION				
RD	QD	QC	QB	QA
1	0	0	0	0
0	COUNT			

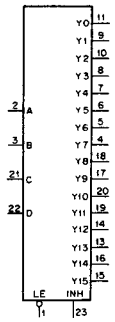
0 ; LOW LEVEL
1 ; HIGH LEVEL

SN74HC4514NT (TI) FLAT PACKAGE

C-MOS 4-LINE TO 16-LINE DECODER/DEMULTIPLEXER WITH ADDRESS LATCHES

– TOP VIEW –



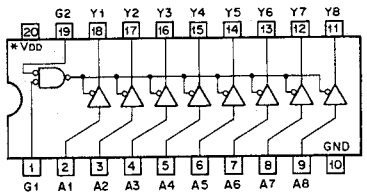


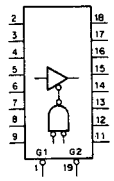
INH	LATCHED DATA				SELECTED OUTPUTS									
	D	C	B	A	Y15	Y14	Y13	Y12	----	Y4	Y3	Y2	Y1	Y0
0	0	0	0	0	0	0	0	0	----	0	0	0	0	1
0	0	0	0	1	0	0	0	0	----	0	0	0	1	0
0	0	0	1	0	0	0	0	0	----	0	0	1	0	0
0	0	0	1	1	0	0	0	0	----	0	1	0	0	0
0	0	1	0	0	0	0	0	0	----	1	0	0	0	0
0	1	1	0	0	0	0	0	1	----	0	0	0	0	0
0	1	1	0	1	0	0	1	0	----	0	0	0	0	0
0	1	1	1	0	0	1	0	0	----	0	0	0	0	0
0	1	1	1	1	1	0	0	0	----	0	0	0	0	0
1	X	X	X	X	ALL OUTPUTS = 0									

SN74HC541NS (TI) FLAT PACKAGE

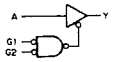
C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS

— TOP VIEW —





* VDD HC; +2 to +6V
HCT; +5V



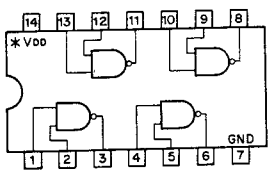
G1	G2	A	Y
0	0	0	0
0	0	1	1
1	X	X	HI-Z
X	1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

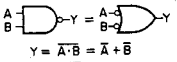
SN74HCU00NS (TI) FLAT PACKAGE

C-MOS 2-INPUT NAND GATE

– TOP VIEW –



* VDD AC, HC; +2 to +6V
HCT; +5V



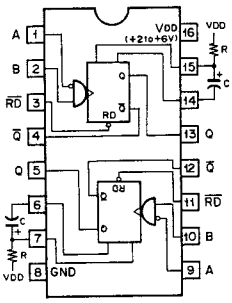
A	B	Y
0	0	1
0	1	1
1	0	1
1	1	0

0; LOW LEVEL
1; HIGH LEVEL

TC74HC123F (TOSHIBA) FLAT PACKAGE

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR

— TOP VIEW —



INPUT			OUTPUT	
RD	A	B	Q	Q
0	X	X	0	1
1	1	X	0	1
1	X	0	0	1
1	0	↓	⊓	⊔
1	↓	1	⊓	⊔
↓	0	1	⊓	⊔

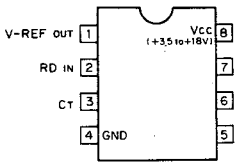
0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

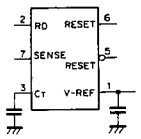
OUTPUT PULSE WIDTH = 0.46CR

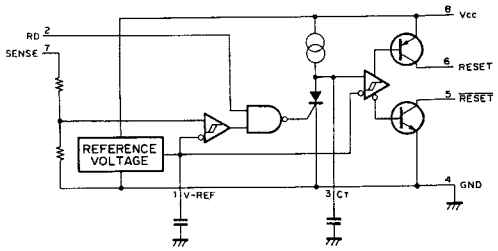
TL7705CP-B (TI)

POWER VOLTAGE SUPERVISOR

— TOP VIEW —

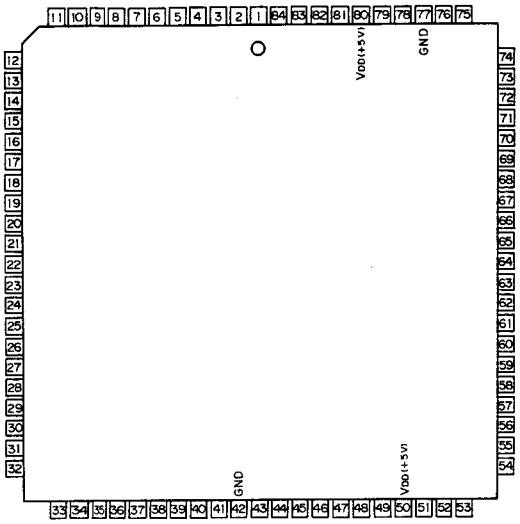


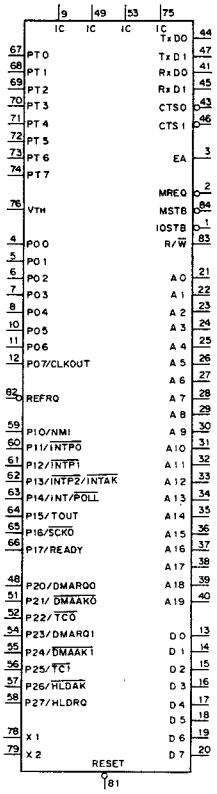




μPD70320L-8 (NEC)

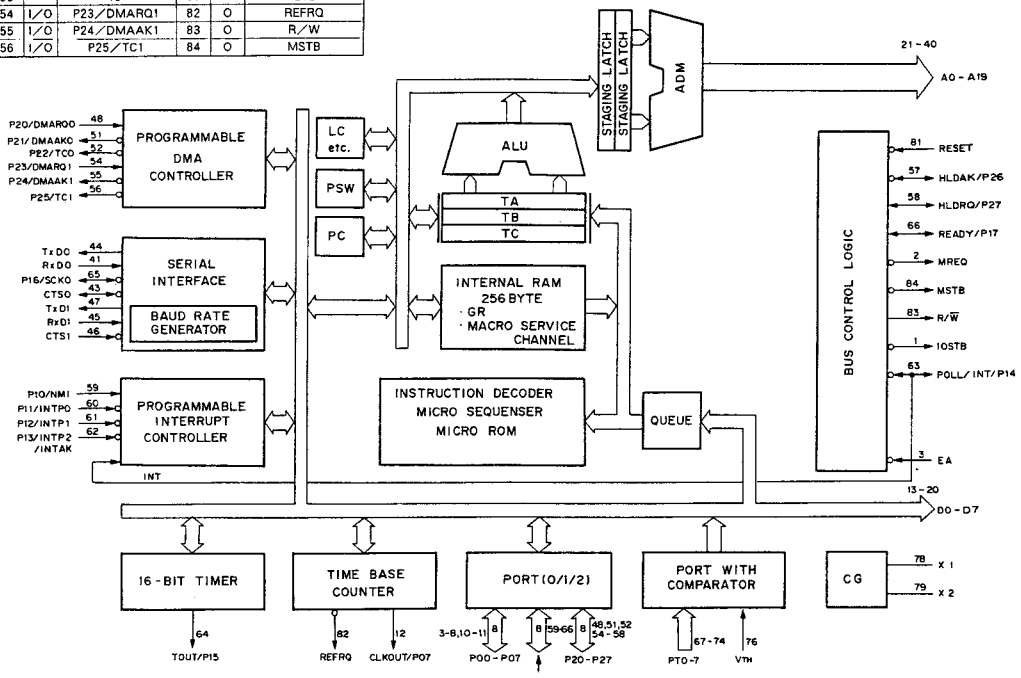
C-MOS 16-BIT MICROPROCESSOR
– TOP VIEW –



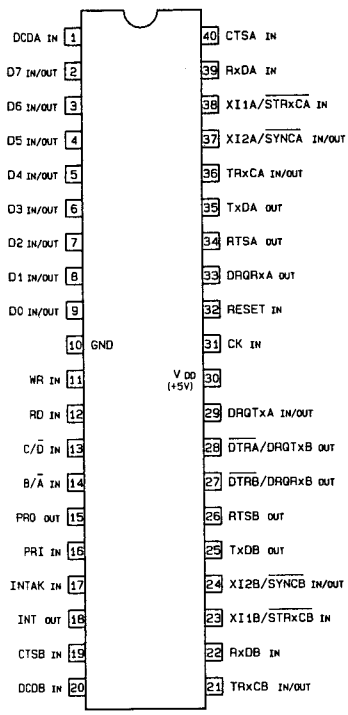


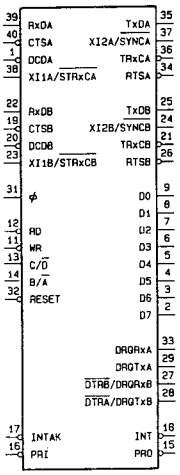
A0 – A19	; ADDRESS BUS OUTPUTS
CLKOUT	; SYSTEM CLOCK OUTPUT
CTS0, CTS1	; CLEAR TO SEND INPUT/OUTPUT
D0 – D7	; DATA BUS INPUTS/OUTPUTS
DMAAK0, DMAAK1	; DMA ACKNOWLEDGE CH0, CH1 OUTPUTS
DMARQ0, DMARQ1	; DMA REQUEST CH0, CH1 INPUTS
EA	; ROM-LESS MODE SET INPUT
HLDAK	; HOLD ACKNOWLEDGE OUTPUT
HLDRQ	; HOLD REQUEST INPUT
IC	; INTERNAL CONNECT
INTP0, INTP1	; INTERRUPT REQUEST INPUTS
INTP2	; INTERRUPT REQUEST INPUT
INTAK	; INTERRUPT ACKNOWLEDGE OUTPUT
IOSTB	; I/O READ/WRITE STROBE OUTPUT
MREQ	; MEMORY REQUEST OUTPUT
MSTB	; MEMORY READ/WRITE STROBE OUTPUT
NMI	; NON-MASKABLE INTERRUPT INPUT
P00 – P07	; PORT 0 INPUTS/OUTPUTS
P10 – P17	; PORT 1 INPUTS/OUTPUTS
P20 – P27	; PORT 2 INPUTS/OUTPUTS
PT0 – PT7	; PORT 0 INPUTS
INT/POLL	; INTERRUPT REQUEST INPUT
READY	; READY INPUT
REFRQ	; REFRESH REQUEST OUTPUT
RESET	; RESET INPUT
R/W	; READ AND WRITE CYCLE OUTPUT
RXD0, RXD1	; SERIAL DATA INPUTS
SCKO	; SERIAL CLOCK OUTPUT
TC0, TC1	; DMA (CH0/CH1) ENDING OUTPUTS
TOUT	; TIMER OUTPUT
TXD0, TXD1	; SERIAL DATA OUTPUTS
VTH	; REF. V FOR COMPARATOR INPUT
X1, X2	; CRYSTAL 1, 2

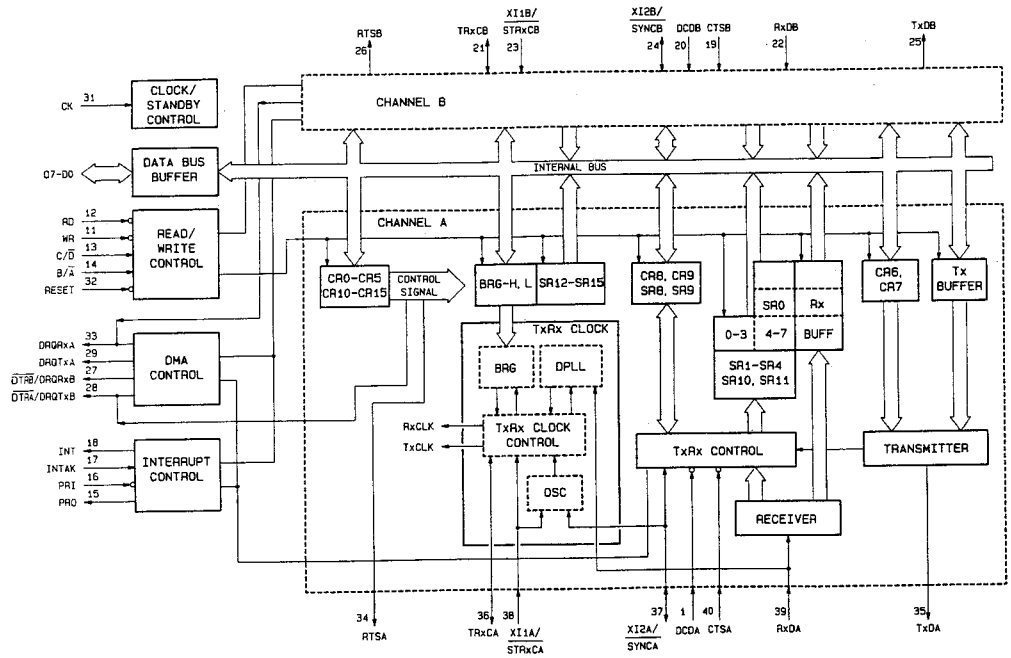
PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL	PIN No.	I/O	SYMBOL
1	O	IOSTB	29	O	A8	57	I/O	P26/HLDAK
2	O	MREQ	30	O	A9	58	I/O	P27/HLDRQ
3	I	EA	31	O	A10	59	I/O	P10/NMI
4	I/O	P00	32	O	A11	60	I/O	P11/INTP0
5	I/O	P01	33	O	A12	61	I/O	P12/INTP1
6	I/O	P02	34	O	A13	62	I/O	P13/INTP2/INTAK
7	I/O	P03	35	O	A14	63	I/O	P14/INT/POLL
8	I/O	P04	36	O	A15	64	I/O	P15/TOUT
9	—	IC	37	O	A16	65	I/O	P16/SCKO
10	I/O	P05	38	O	A17	66	I/O	P17/READY
11	I/O	P06	39	O	A18	67	I	PT0
12	I/O	P07/CLKOUT	40	O	A19	68	I	PT1
13	I/O	D0	41	I	RXD0	69	I	PT2
14	I/O	D1	42	—	GND	70	I	PT3
15	I/O	D2	43	I/O	CTS0	71	I	PT4
16	I/O	D3	44	O	TXD0	72	I	PT5
17	I/O	D4	45	I	RXD1	73	I	PT6
18	I/O	D5	46	I	CTS1	74	I	PT7
19	I/O	D6	47	O	TXD1	75	—	IC
20	I/O	D7	48	I/O	P20/DMARQ0	76	I	VTH
21	O	A0	49	—	IC	77	—	GND
22	O	A1	50	I	VDD(+5V)	78	—	X1
23	O	A2	51	I/O	P21/DMAAK0	79	—	X2
24	O	A3	52	I/O	P22/TC0	80	I	VDD(+5V)
25	O	A4	53	—	IC	81	I	RESET
26	O	A5	54	I/O	P23/DMARQ1	82	O	REFRQ
27	O	A6	55	I/O	P24/DMAAK1	83	O	R/W
28	O	A7	56	I/O	P25/TC1	84	O	MSTB



μPD72001C (NEC)
C-MOS ADVANCED MULTI-PROTOCOL SERIAL CONTROLLER
— TOP VIEW —







INPUTS				FUNCTION
WR	RD	B/Ā	C/D̄	
0	1	0	0	CHANNEL A / CHANNEL B — WRITE (TxD)
		1		
1	0	0	0	CHANNEL A / CHANNEL B — READ (RxD)
		1		
0	1	0	1	CHANNEL A / CHANNEL B — WRITE (CONTROL REGISTER)
		1		
1	0	0	1	CHANNEL A / CHANNEL B — READ (STATUS REGISTER)
		1		
1	1	X	X	HIGH-IMPEDANCE
0	0	X	X	INHIBIT

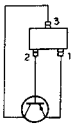
0: LOW LEVEL
1: HIGH LEVEL
X: DON'T CARE.

CK : SYSTEM CLOCK INPUT
WR : WRITE ENABLE INPUT
RD : READ ENABLE INPUT
B/Ā : CHANNEL B/A SELECT INPUT
C/D̄ : CONTROL/DATA SELECT INPUT
D0-D7 : DATA BUS INPUTS/OUTPUTS
INT : INTERRUPT OUTPUT
INTAK : INTERRUPT ACKNOWLEDGE INPUT
PRI : PRIORITY INPUT
DRQTxA: DMA REQUEST TxA OUTPUT
DRQRxA: DMA REQUEST RxA OUTPUT
PRO : PRIORITY OUTPUT

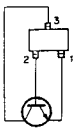
DTRA/DRQTxB: DATA TERMINAL READY A/DMA REQUEST TxB OUTPUT
DTRB/DRQRxB: DATA TERMINAL READY B/DMA REQUEST RxB OUTPUT
CTSA, CTSB : CLEAR TO SEND A/B INPUT
DCDA, DCDB : DATA CARRIER DETECT A/B INPUT
RTSA, RTSB : REQUEST TO SEND A/B OUTPUT
RESET : RESET INPUT

TRANSISTOR, DIODE

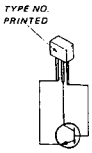
TRANSISTOR



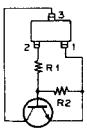
2SA812



2SC1623
2SC3545

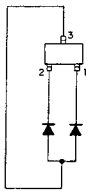


2SC2785F

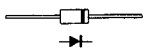


FA1F4N
FA1L4M
FN1F4N

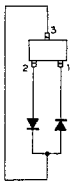
DIODE



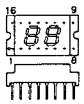
1S2835



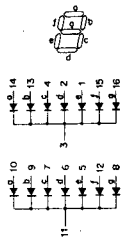
1SS119

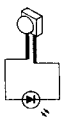


1SS123



GL-6R202: RED





LN35BP ; GREEN

TLY123 ; YELLOW

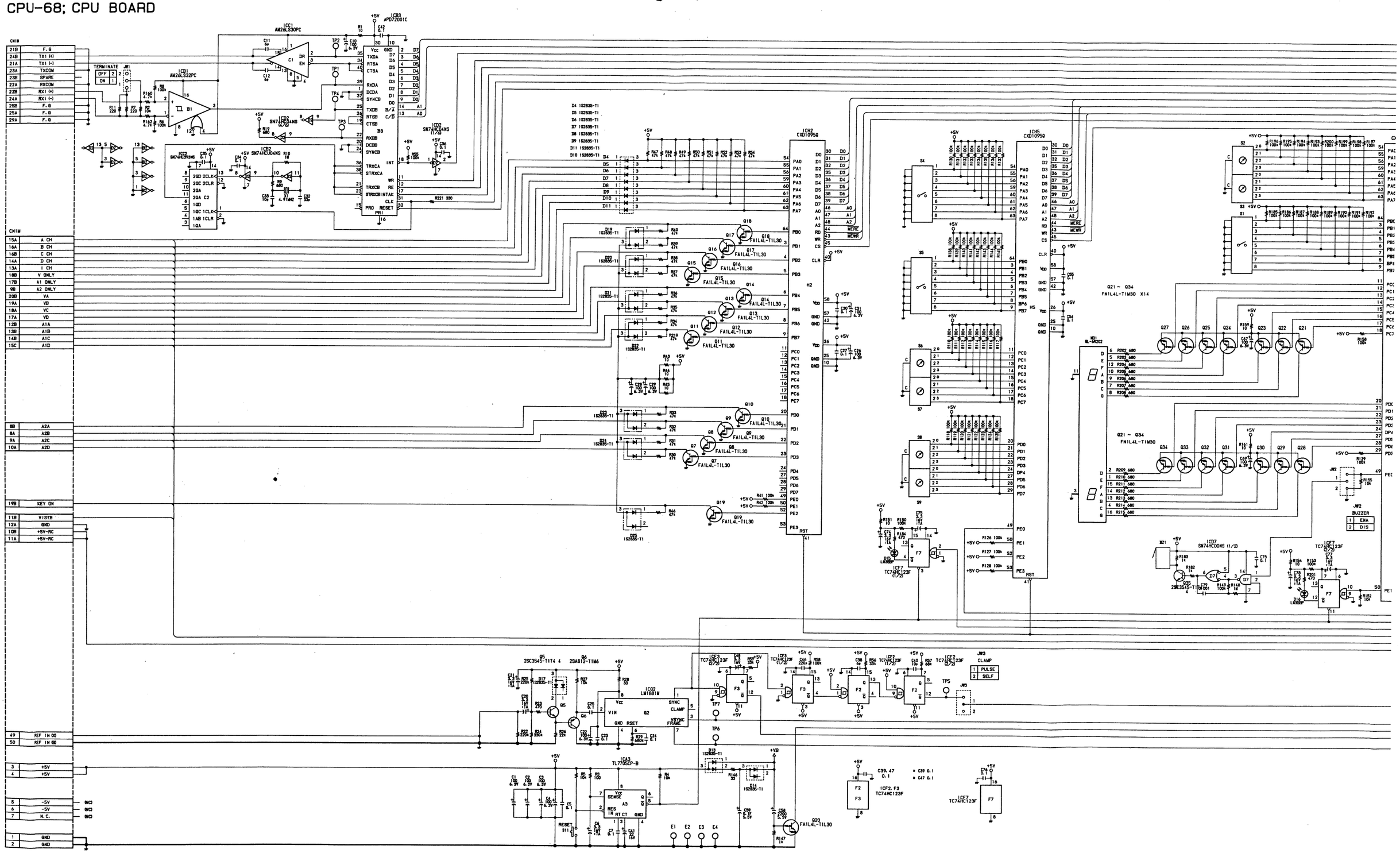
SECTION 7
SCHEMATIC DIAGRAMS

CIRCUIT FUNCTION OF THE SCHEMATIC DIAGRAMS

The circuit information is provided below.

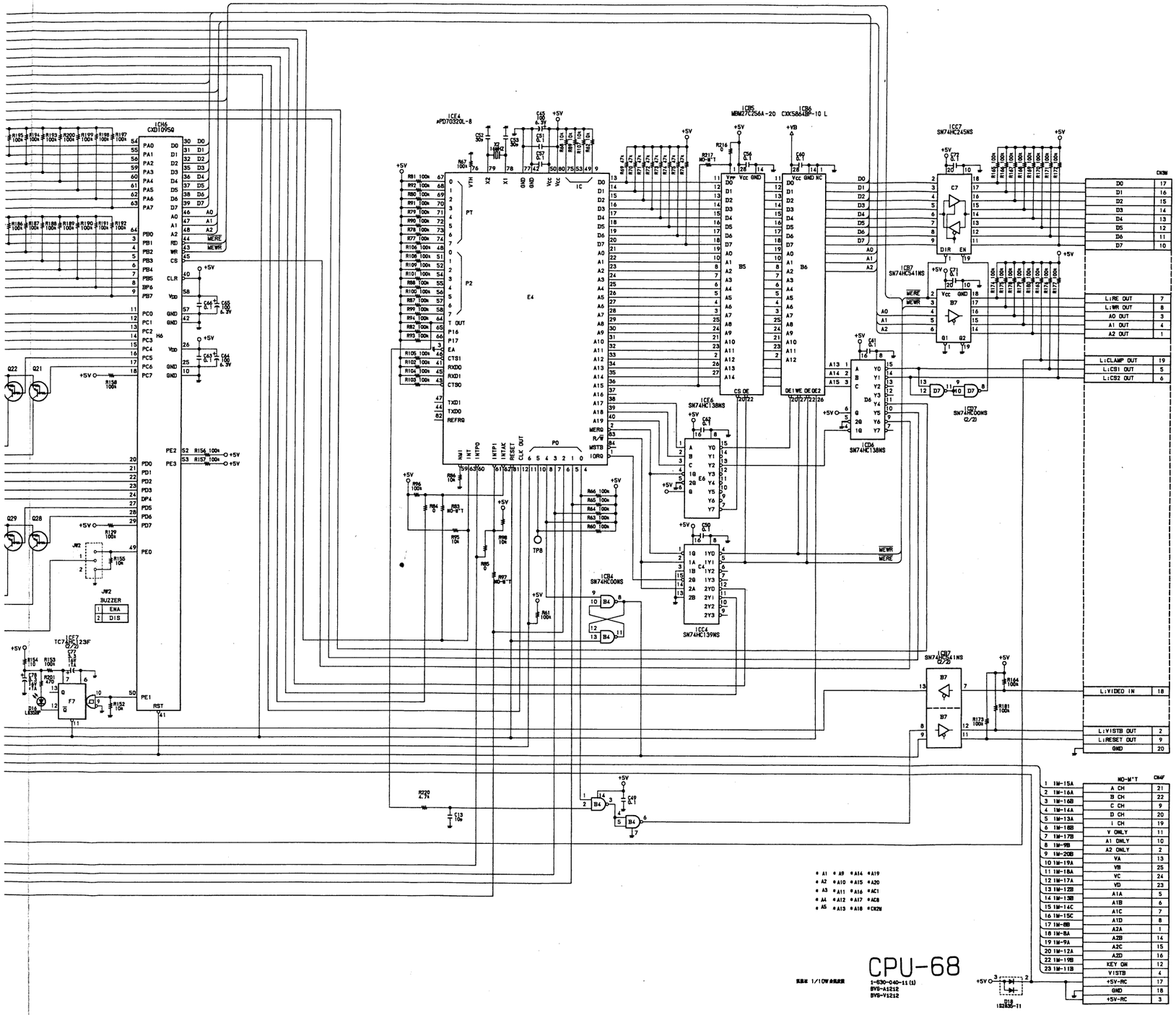
CIRCUIT BOARD	CIRCUIT FUNCTION
CN-334	CONNECTOR BOARD
CN-335	REF DA BOARD
CPU-68	CPU BOARD
LE-76	LED BOARD
VSW-21	VIDEO MATRIX BOARD
SW-354	SWITCH BOARD (BKS-R1210)

CPU-68; CPU BOARD



7-5 7-6

A B C D E F G H

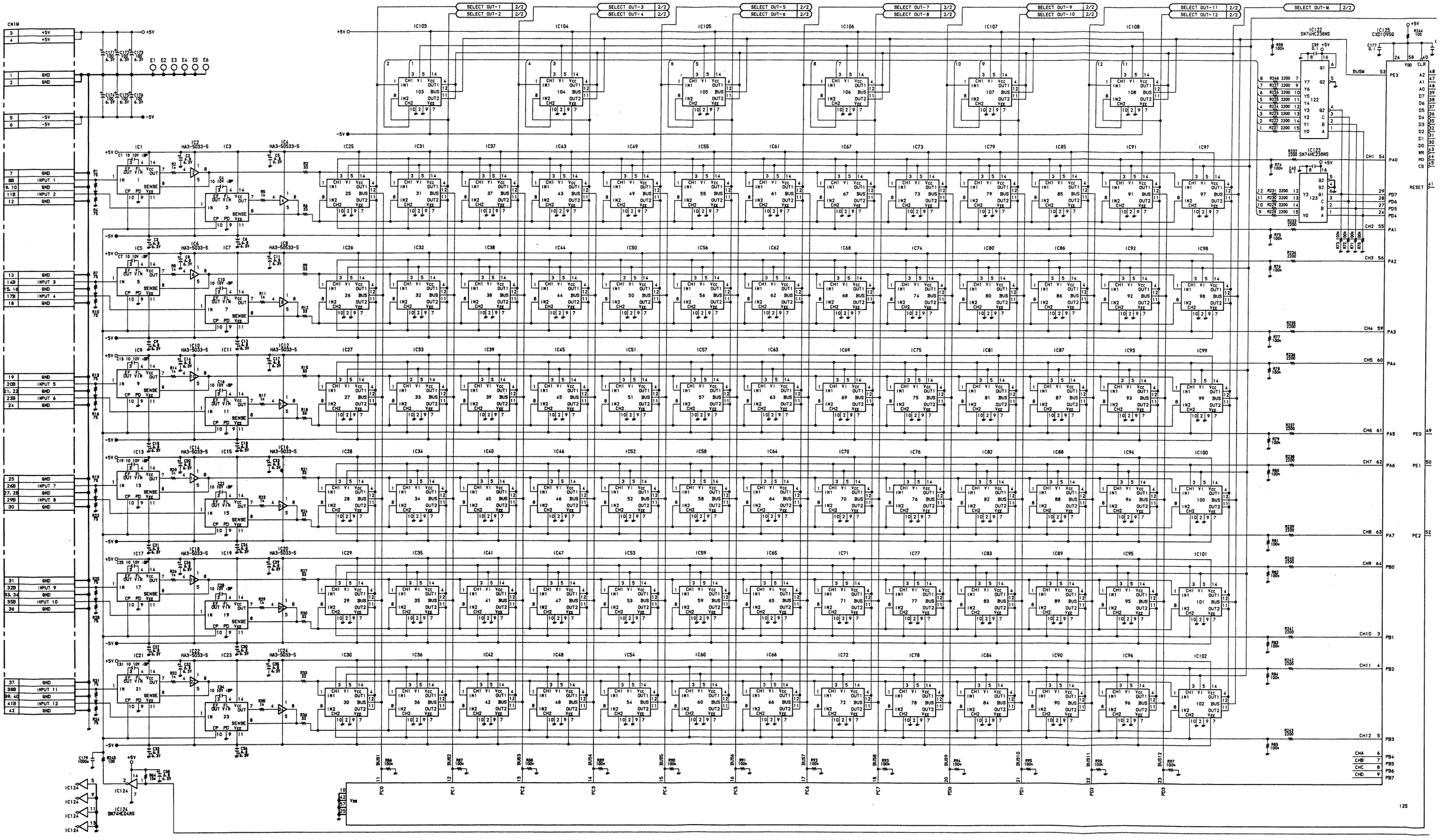


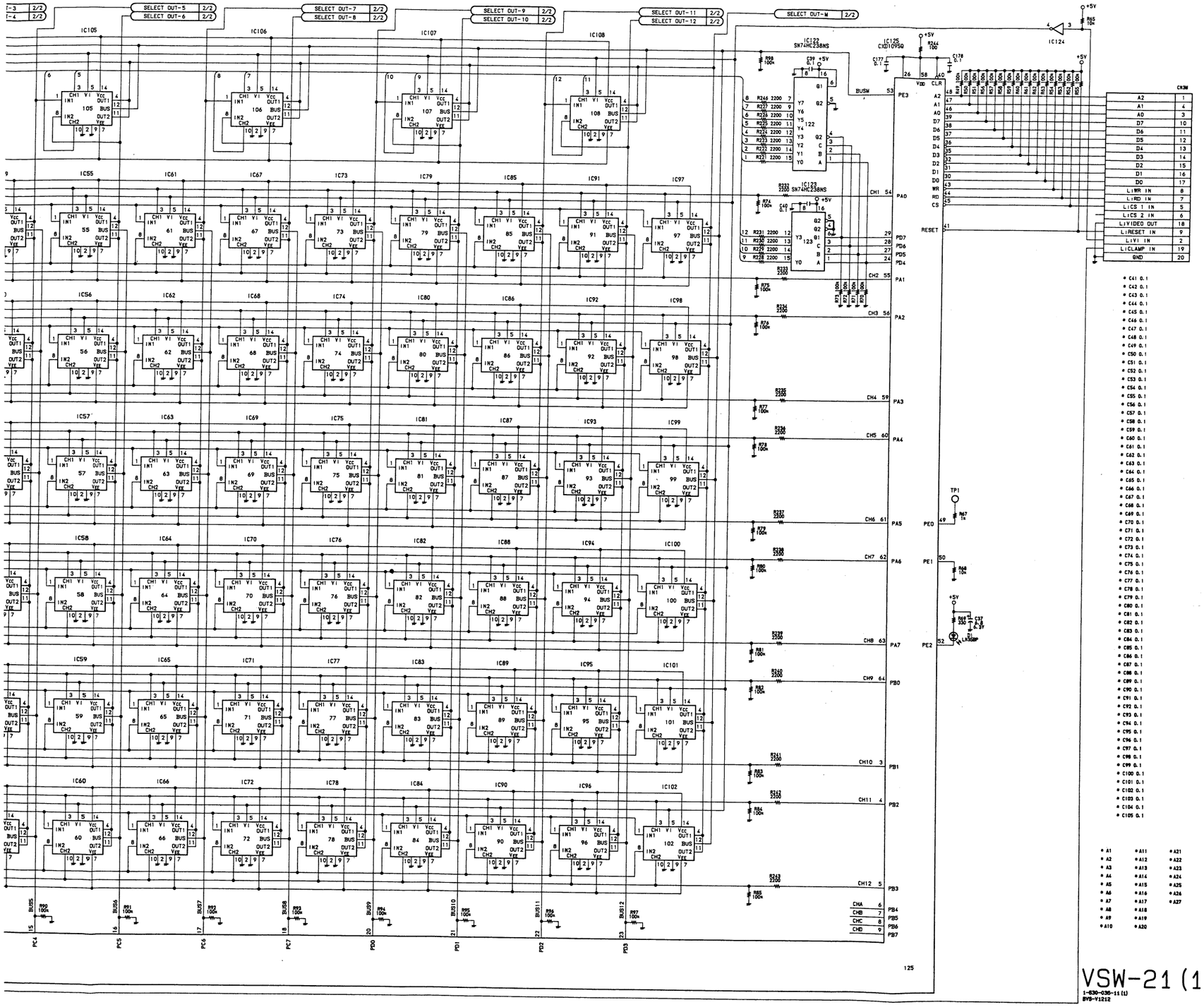
7-7 7-8

I J K L M N O P

VSW-21 (1/2) VSW-21 (1/

VSW-21 (1/2) ; VIDEO MATRIX BOARD

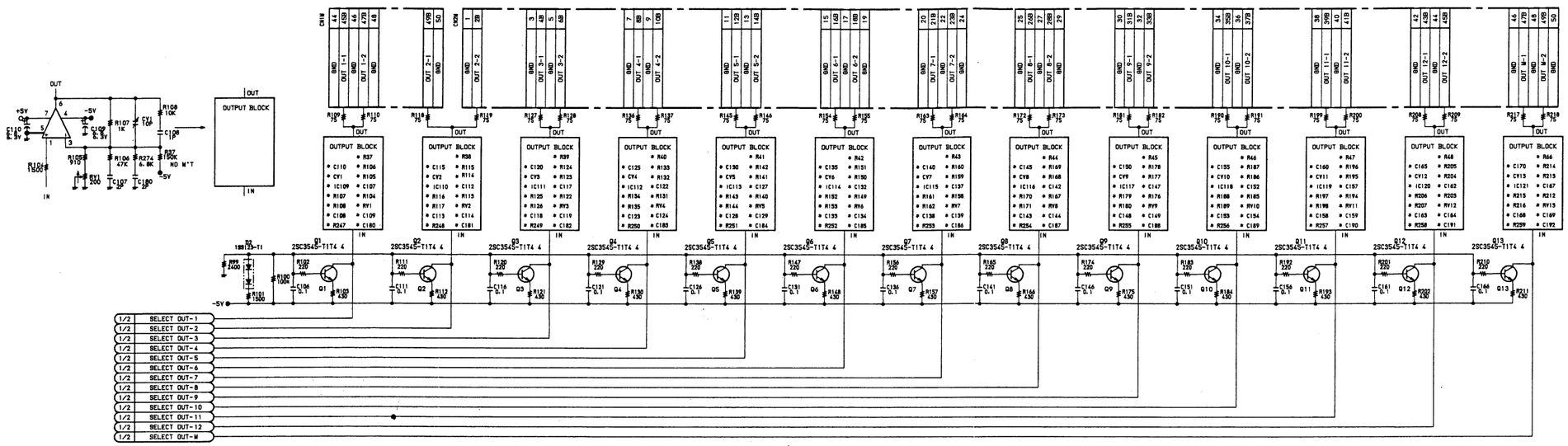




VSW-21 (1/2)

1-630-036-11 (1)
BVS-V1212

VSW-21 (2/2) ; VIDEO MATRIX BOARD



VSW-21 (2/2)

1-630-036-11 (1)
BVS-V1212

CN-334 CN-334

CN-334: CONNECTOR BOARD

FL2 CG CB PSG B

FL1 CG CB PSG B

CN3M

1	+5V
2	+5V
3	-5V
4	-5V
5	GND 1
6	GND 2

CN42M

1	+5V
2	NC
3	GND

CN1F

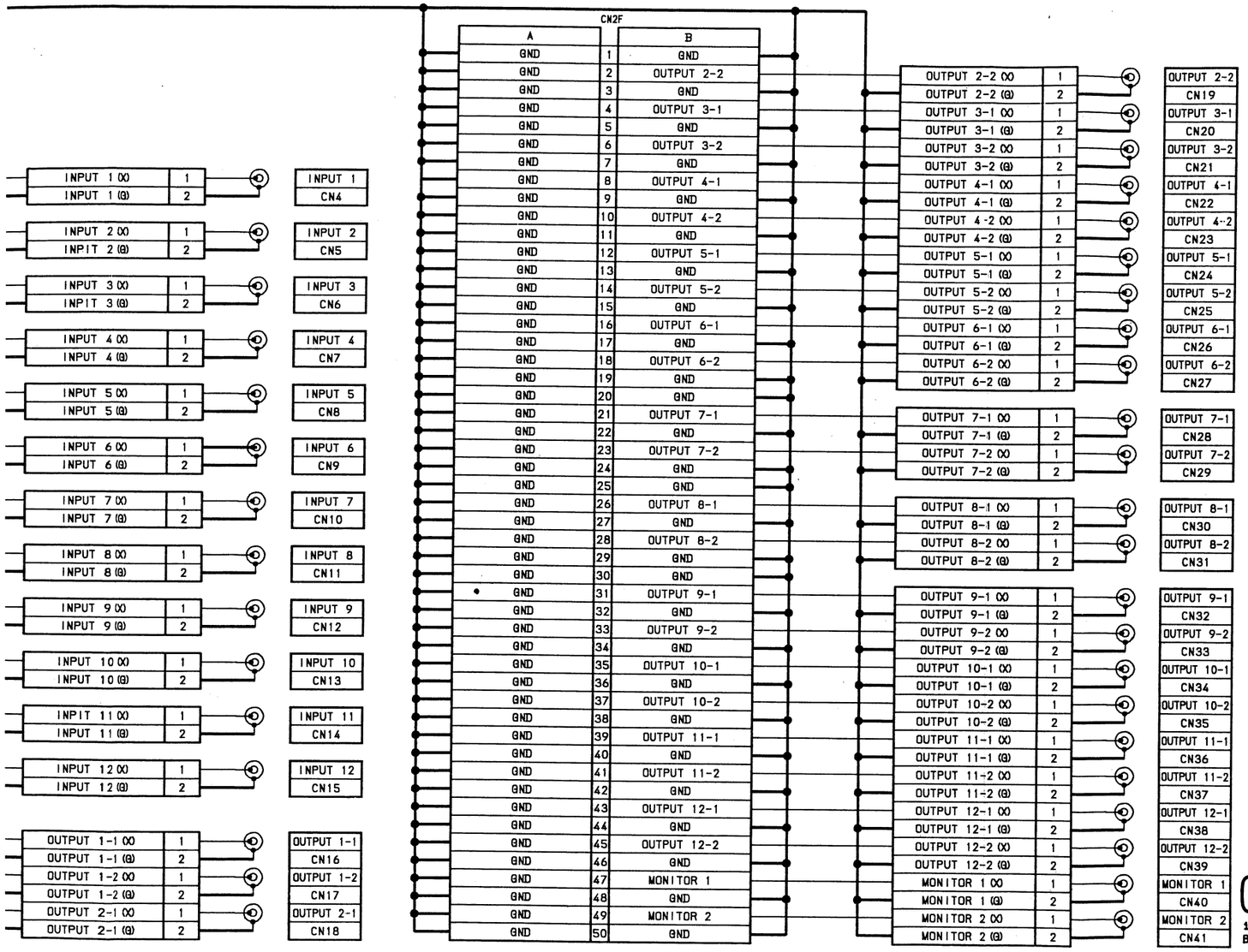
A		B
GND	1	GND
GND	2	GND
+5V	3	+5V
+5V	4	+5V
-5V	5	-5V
-5V	6	-5V
NC	7	NC
GND	8	INPUT 1
GND	9	GND
GND	10	GND
GND	11	INPUT 2
GND	12	GND
GND	13	GND
GND	14	INPUT 3
GND	15	GND
GND	16	GND
GND	17	INPUT 4
GND	18	GND
GND	19	GND
GND	20	INPUT 5
GND	21	GND
GND	22	GND
GND	23	INPUT 6
GND	24	GND
GND	25	GND
GND	26	INPUT 7
GND	27	GND
GND	28	GND
GND	29	INPUT 8
GND	30	GND
GND	31	GND
GND	32	INPUT 9
GND	33	GND
GND	34	GND
GND	35	INPUT 10
GND	36	GND
GND	37	GND
GND	38	INPUT 11
GND	39	GND
GND	40	GND
GND	41	INPUT 12
GND	42	GND
GND	43	GND
GND	44	GND
GND	45	OUTPUT 1-1
GND	46	GND
GND	47	OUTPUT 1-2
GND	48	GND
GND	49	OUTPUT 2-1
GND	50	GND

INPUT 1 (X)	1	INPUT 1	CN4
INPUT 1 (G)	2		
INPUT 2 (X)	1	INPUT 2	CN5
INPIT 2 (G)	2		
INPUT 3 (X)	1	INPUT 3	CN6
INPIT 3 (G)	2		
INPUT 4 (X)	1	INPUT 4	CN7
INPUT 4 (G)	2		
INPUT 5 (X)	1	INPUT 5	CN8
INPUT 5 (G)	2		
INPUT 6 (X)	1	INPUT 6	CN9
INPUT 6 (G)	2		
INPUT 7 (X)	1	INPUT 7	CN10
INPUT 7 (G)	2		
INPUT 8 (X)	1	INPUT 8	CN11
INPUT 8 (G)	2		
INPUT 9 (X)	1	INPUT 9	CN12
INPUT 9 (G)	2		
INPUT 10 (X)	1	INPUT 10	CN13
INPUT 10 (G)	2		
INPIT 11 (X)	1	INPUT 11	CN14
INPUT 11 (G)	2		
INPUT 12 (X)	1	INPUT 12	CN15
INPUT 12 (G)	2		
OUTPUT 1-1 (X)	1	OUTPUT 1-1	CN16
OUTPUT 1-1 (G)	2		
OUTPUT 1-2 (X)	1	OUTPUT 1-2	CN17
OUTPUT 1-2 (G)	2		
OUTPUT 2-1 (X)	1	OUTPUT 2-1	CN18
OUTPUT 2-1 (G)	2		

CN2F

A		B
GND	1	GND
GND	2	OUTPUT 2-2
GND	3	GND
GND	4	OUTPUT 3-1
GND	5	GND
GND	6	OUTPUT 3-2
GND	7	GND
GND	8	OUTPUT 4-1
GND	9	GND
GND	10	OUTPUT 4-2
GND	11	GND
GND	12	OUTPUT 5-1
GND	13	GND
GND	14	OUTPUT 5-2
GND	15	GND
GND	16	OUTPUT 6-1
GND	17	GND
GND	18	OUTPUT 6-2
GND	19	GND
GND	20	GND
GND	21	OUTPUT 7-1
GND	22	GND
GND	23	OUTPUT 7-2
GND	24	GND
GND	25	GND
GND	26	OUTPUT 8-1
GND	27	GND
GND	28	OUTPUT 8-2
GND	29	GND
GND	30	GND
GND	31	OUTPUT 9-1
GND	32	GND
GND	33	OUTPUT 9-2
GND	34	GND
GND	35	OUTPUT 10-1
GND	36	GND
GND	37	OUTPUT 10-2
GND	38	GND
GND	39	OUTPUT 11-1
GND	40	GND
GND	41	OUTPUT 11-2
GND	42	GND
GND	43	OUTPUT 12-1
GND	44	GND
GND	45	OUTPUT 12-2
GND	46	GND
GND	47	MONITOR 1
GND	48	GND
GND	49	MONITOR 2
GND	50	GND

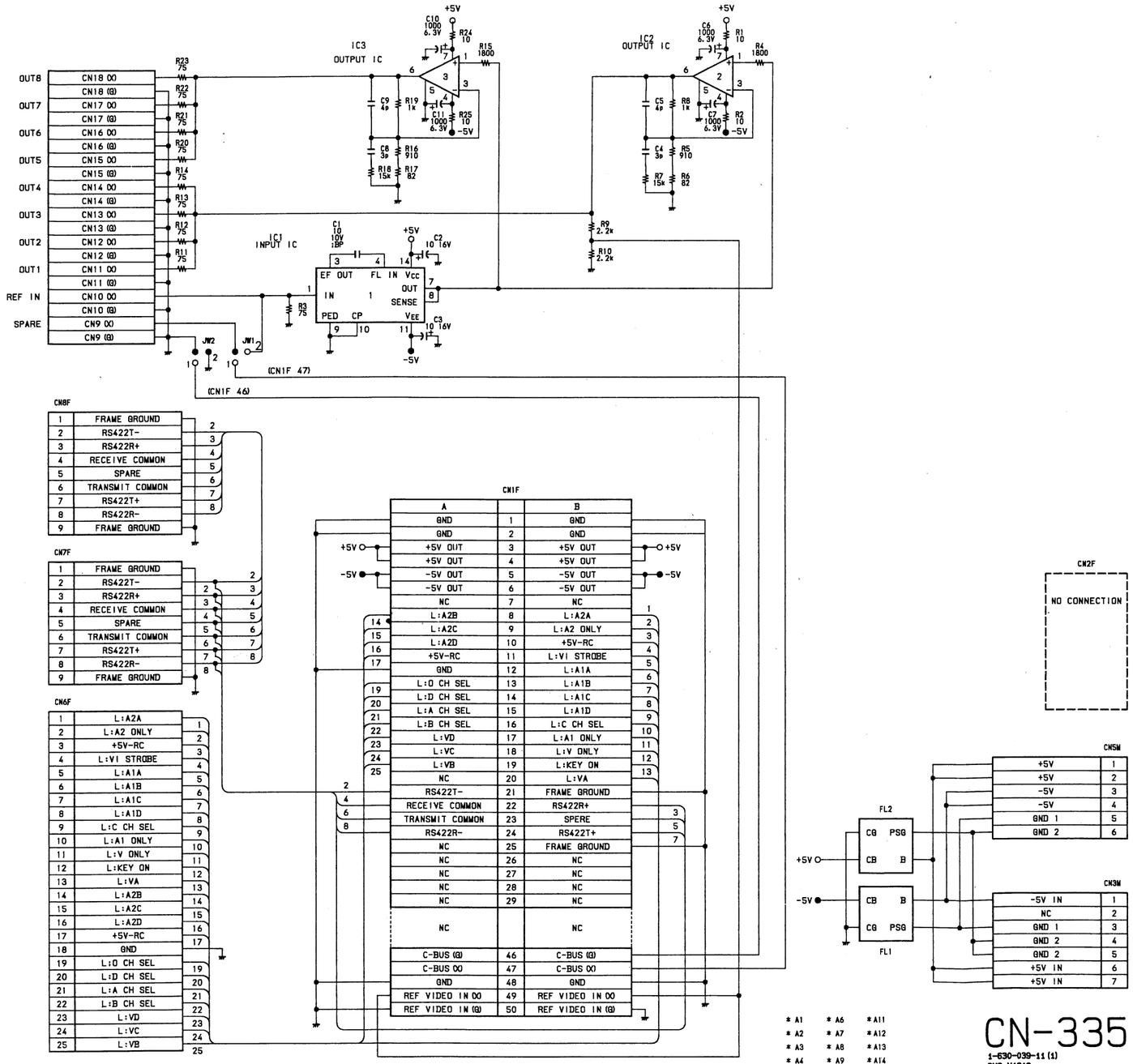
OUTPUT 2-2 (X)	1
OUTPUT 2-2 (G)	2
OUTPUT 3-1 (X)	1
OUTPUT 3-1 (G)	2
OUTPUT 3-2 (X)	1
OUTPUT 3-2 (G)	2
OUTPUT 4-1 (X)	1
OUTPUT 4-1 (G)	2
OUTPUT 4-2 (X)	1
OUTPUT 4-2 (G)	2
OUTPUT 5-1 (X)	1
OUTPUT 5-1 (G)	2
OUTPUT 5-2 (X)	1
OUTPUT 5-2 (G)	2
OUTPUT 6-1 (X)	1
OUTPUT 6-1 (G)	2
OUTPUT 6-2 (X)	1
OUTPUT 6-2 (G)	2
OUTPUT 7-1 (X)	1
OUTPUT 7-1 (G)	2
OUTPUT 7-2 (X)	1
OUTPUT 7-2 (G)	2
OUTPUT 8-1 (X)	1
OUTPUT 8-1 (G)	2
OUTPUT 8-2 (X)	1
OUTPUT 8-2 (G)	2
OUTPUT 9-1 (X)	1
OUTPUT 9-1 (G)	2
OUTPUT 9-2 (X)	1
OUTPUT 9-2 (G)	2
OUTPUT 10-1 (X)	1
OUTPUT 10-1 (G)	2
OUTPUT 10-2 (X)	1
OUTPUT 10-2 (G)	2
OUTPUT 11-1 (X)	1
OUTPUT 11-1 (G)	2
OUTPUT 11-2 (X)	1
OUTPUT 11-2 (G)	2
OUTPUT 12-1 (X)	1
OUTPUT 12-1 (G)	2
OUTPUT 12-2 (X)	1
OUTPUT 12-2 (G)	2
MONITOR 1 (X)	1
MONITOR 1 (G)	2
MONITOR 2 (X)	1
MONITOR 2 (G)	2



CN-334

1-630-038-11 (1)
BVS-V1212

CN-335; REF DA BOARD

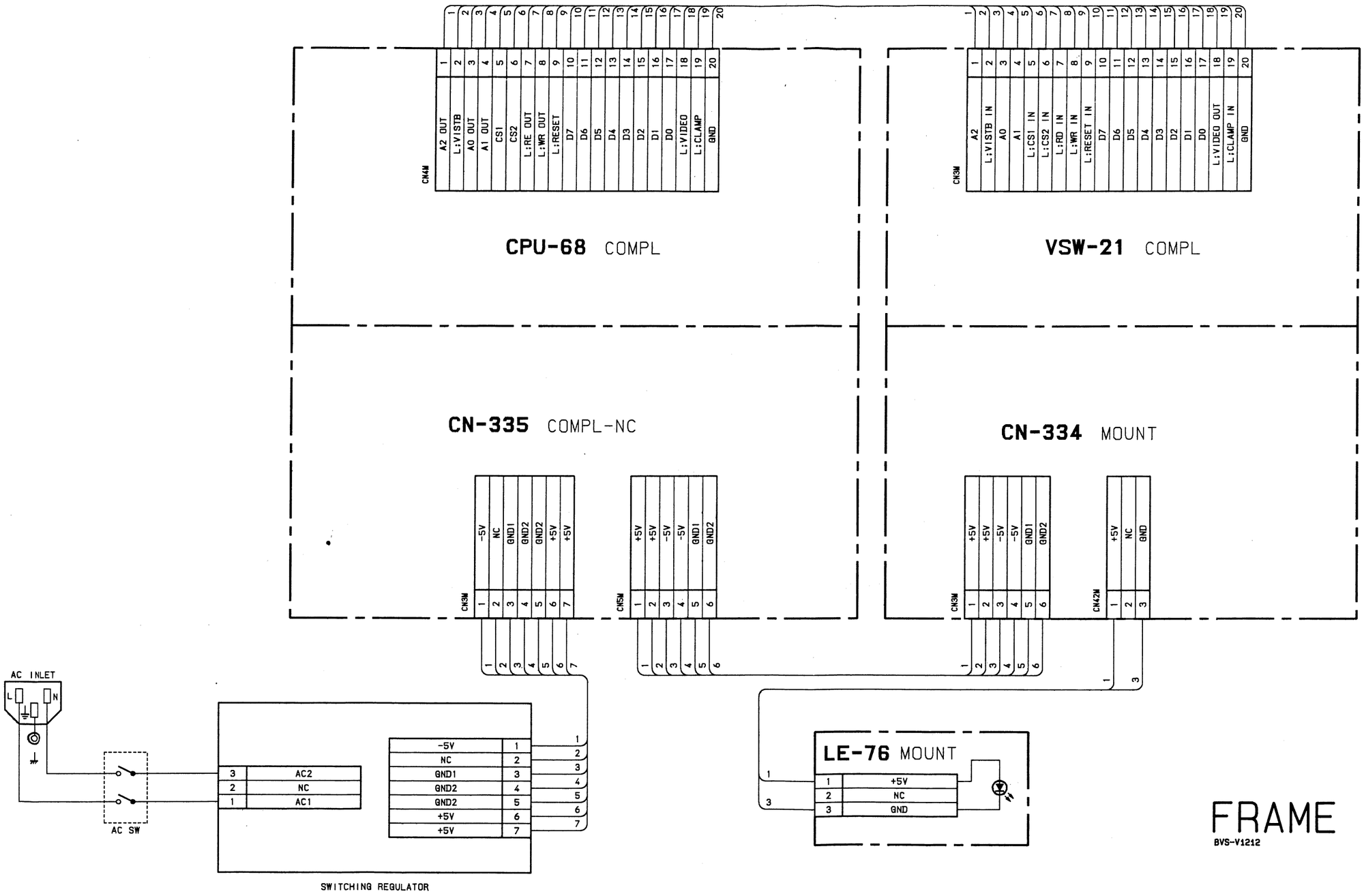


CN-335

1-630-039-11 (1)
BVS-V1212

FRAME FRAME

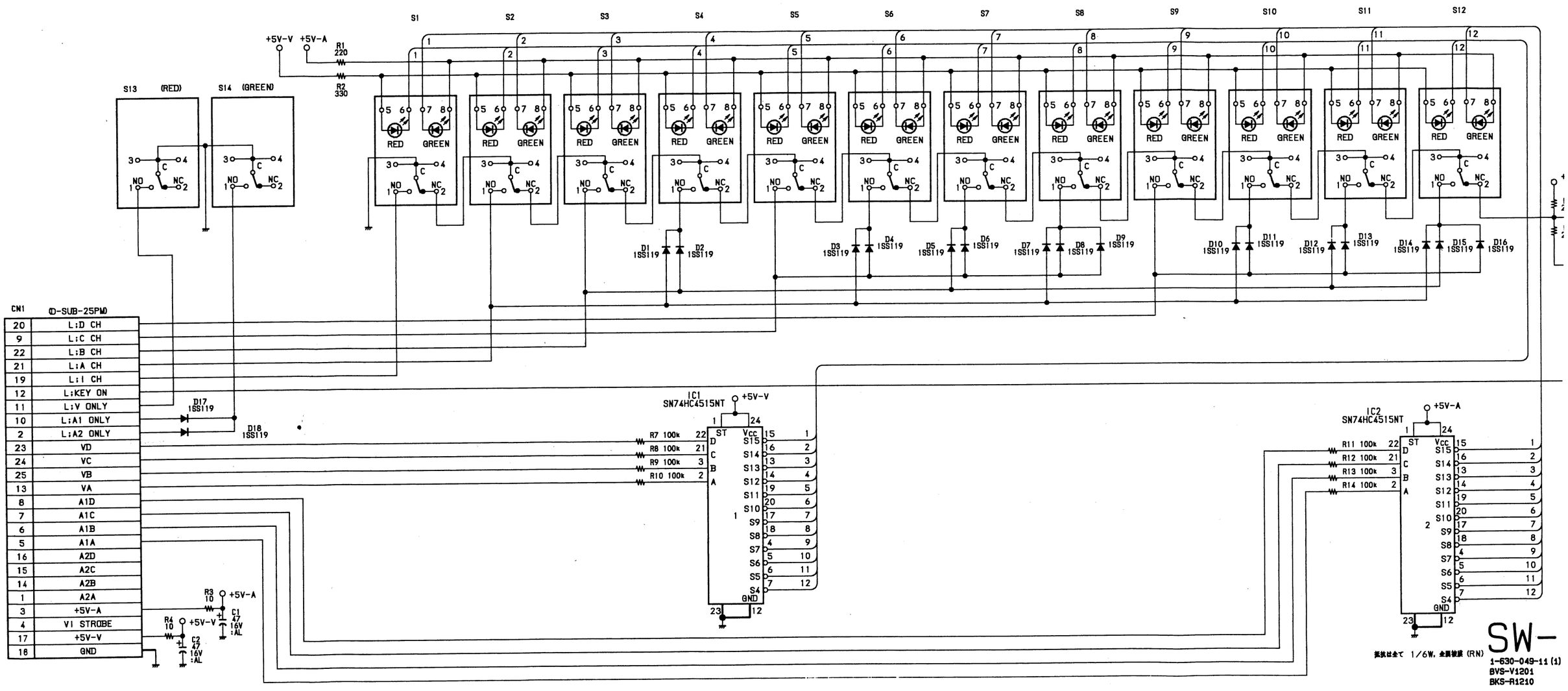
FRAME



FRAME

BVS-V1212

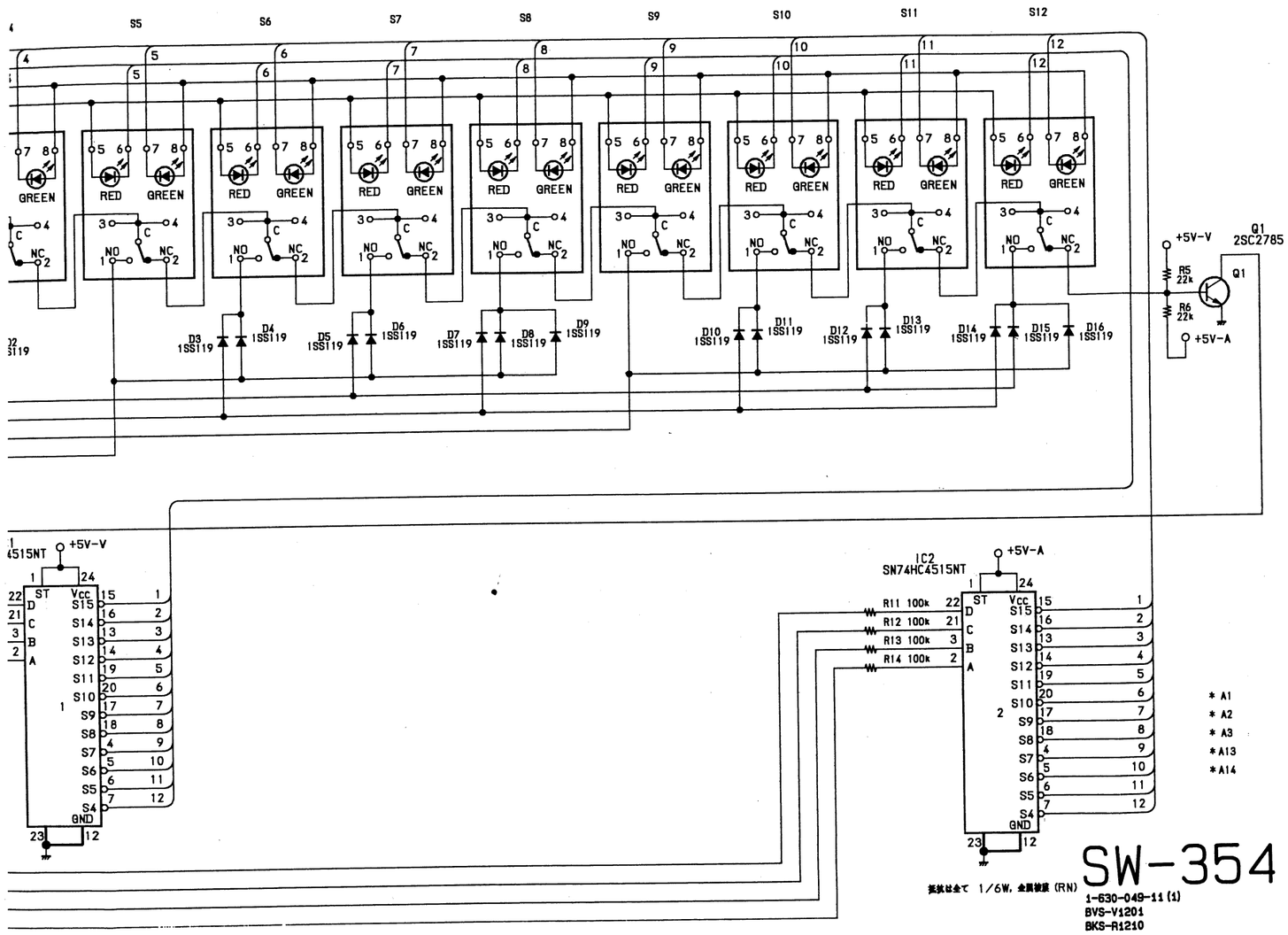
BKS-R1210
SW-354; SWITCH BOARD



SW-

抵抗は全て 1/6W, 金属被膜 (RN)

1-630-049-11 (1)
BVS-V1201
BKS-R1210



SW-354

1-630-049-11 (1)
BVS-V1201
BKS-R1210

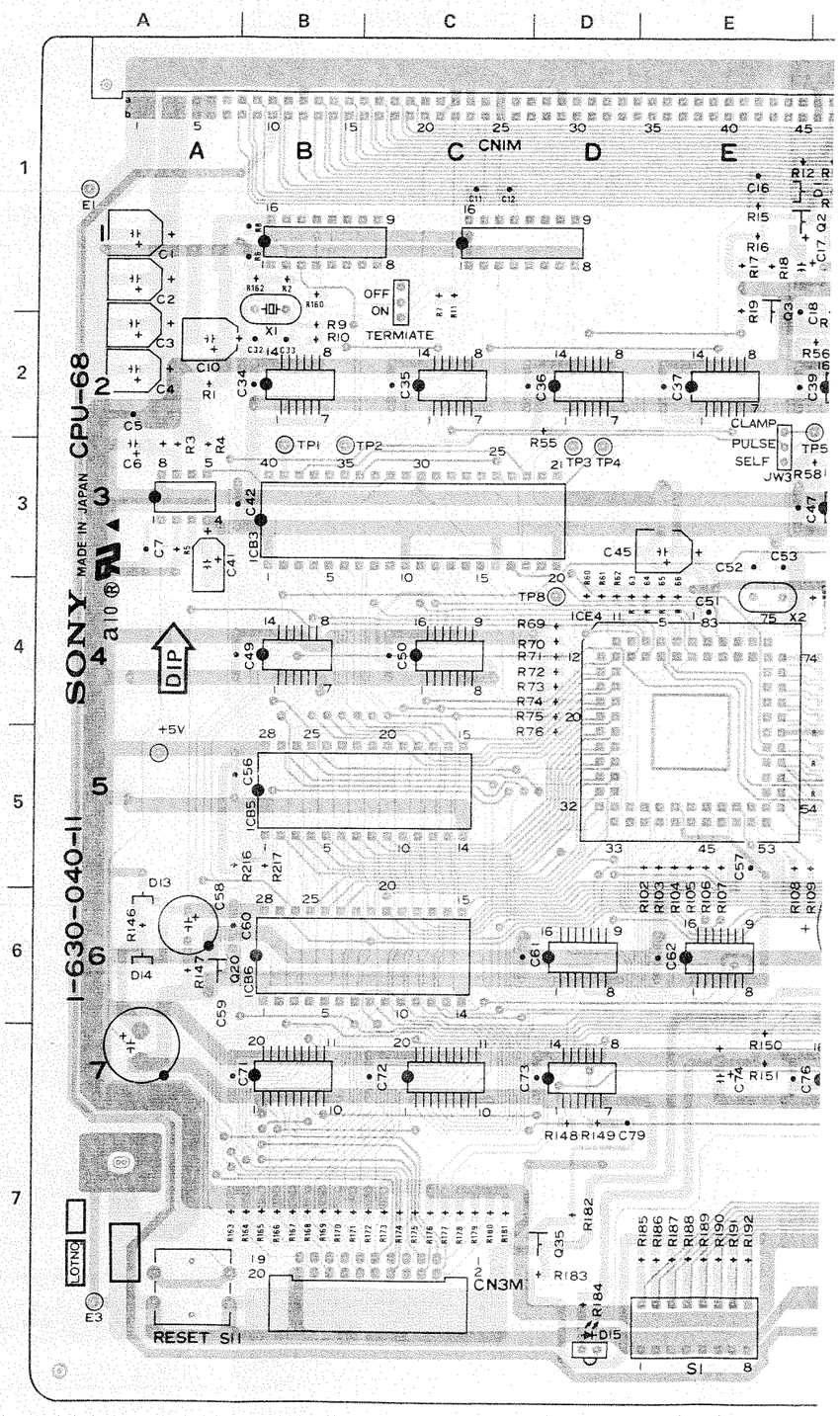
SECTION 8
PRINTED WIRING BOARDS

CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-11)

BZ1	F - 6	Q20	A - 6
		Q21	H - 6
CN1	A - 1	Q22	H - 6
CN2	G - 1	Q23	H - 6
CN3	C - 7	Q24	H - 6
		Q25	H - 7
D4	H - 3	Q26	H - 7
D5	H - 3	Q27	H - 7
D6	H - 3	Q28	H - 6
D7	H - 3	Q29	H - 6
D8	H - 3	Q30	H - 6
D9	H - 3	Q31	H - 6
D10	H - 3	Q32	H - 6
D11	H - 3	Q33	H - 7
D13	A - 6	Q34	H - 7
D14	A - 6	Q35	D - 7
D15	D - 7		
D16	H - 7	S1	E - 7
D17	G - 1	S2	G - 7
D18	H - 7	S3	G - 7
D19	H - 1	S4	H - 5
D20	H - 1	S5	H - 5
D21	H - 1	S6	H - 4
D22	H - 1	S7	H - 4
D23	H - 1	S8	H - 4
D24	H - 1	S9	H - 4
D25	H - 1	S11	A - 7
E1	A - 1	TP1	B - 3
E2	H - 1	TP2	B - 3
E3	A - 7	TP3	D - 3
E4	H - 7	TP4	D - 3
		TP5	F - 2
ICA3	A - 3	TP6	G - 2
		TP7	G - 2
ICB1	B - 1	TP8	D - 4
ICB2	B - 2		
ICB3	B - 3	X1	B - 2
ICB4	B - 4	X2	E - 4
ICB5	B - 5		
ICB6	B - 6		
ICB7	B - 7		
ICC1	C - 1		
ICC2	C - 2		
ICC4	C - 4		
ICC7	C - 7		
ICD2	D - 2		
ICD6	D - 6		
ICD7	D - 7		
ICE4	E - 4		
ICE6	E - 6		
ICF2	F - 2		
ICF3	F - 3		
ICF7	F - 7		
ICG2	G - 2		
ICH2	H - 2		
ICH5	H - 5		
ICH6	H - 6		
JW1	C - 1		
JW2	G - 7		
JW3	E - 3		
ND1	H - 7		
Q5	F - 1		
Q6	F - 2		
Q7	H - 1		
Q8	H - 1		
Q9	H - 1		
Q10	H - 1		
Q11	H - 2		
Q12	H - 2		
Q13	H - 2		
Q14	H - 2		
Q15	H - 2		
Q16	H - 2		
Q17	H - 2		
Q18	H - 2		
Q19	H - 3		

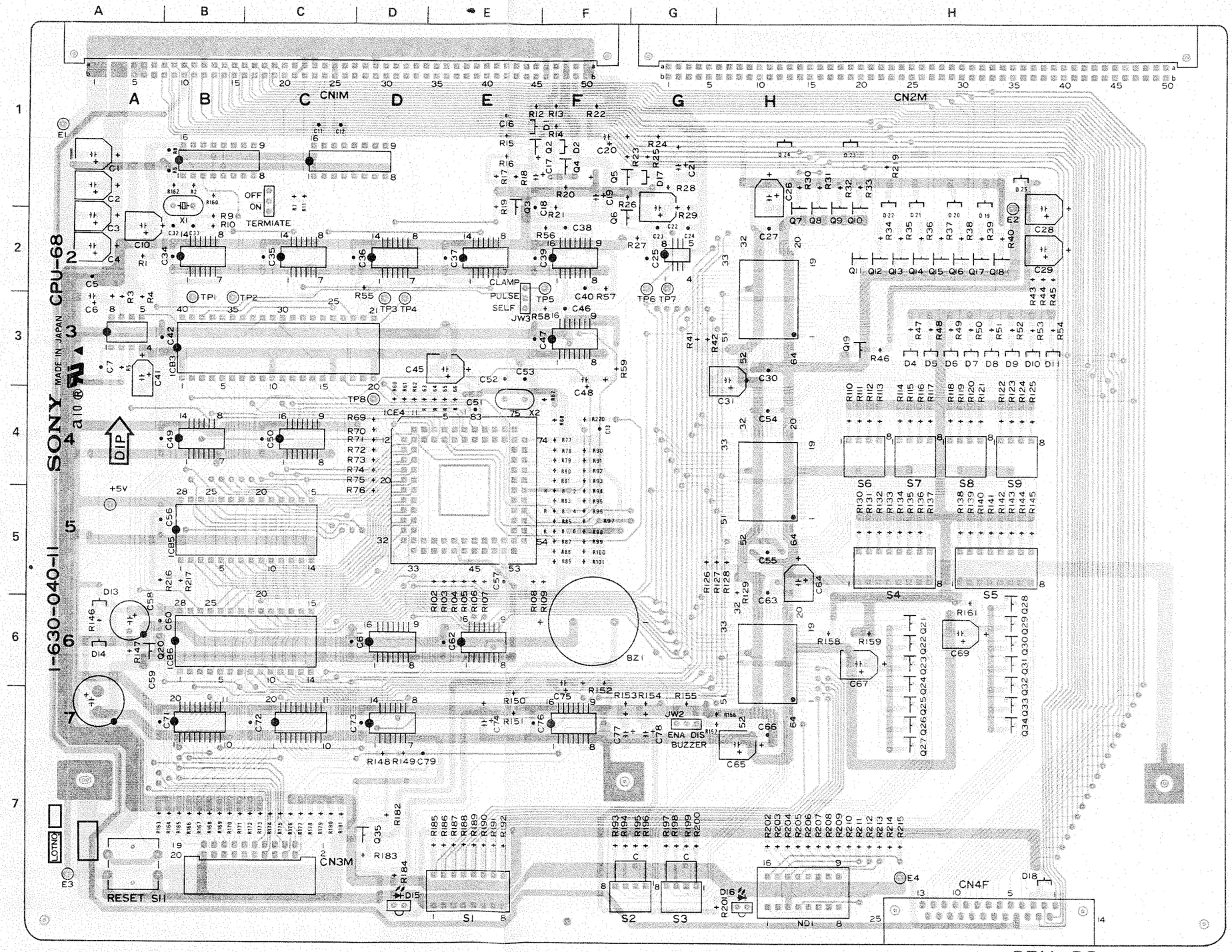


CPU-68; CPU BOARD

BVS-A1212/V1212

CPU-68 (1-630-040-11)

BZ1	F - 6	Q20	A - 6
		Q21	H - 6
CN1	A - 1	Q22	H - 6
CN2	G - 1	Q23	H - 6
CN3	C - 7	Q24	H - 6
		Q25	H - 7
D4	H - 3	Q26	H - 7
D5	H - 3	Q27	H - 7
D6	H - 3	Q28	H - 6
D7	H - 3	Q29	H - 6
D8	H - 3	Q30	H - 6
D9	H - 3	Q31	H - 6
D10	H - 3	Q32	H - 6
D11	H - 3	Q33	H - 7
D13	A - 6	Q34	H - 7
D14	A - 6	Q35	D - 7
D15	D - 7		
D16	H - 7	S1	E - 7
D17	G - 1	S2	G - 7
D18	H - 7	S3	H - 5
D19	H - 1	S4	H - 5
D20	H - 1	S5	H - 4
D21	H - 1	S6	H - 4
D22	H - 1	S7	H - 4
D23	H - 1	S8	H - 4
D24	H - 1	S9	H - 4
D25	H - 1	S11	A - 7
E1	A - 1	TP1	B - 3
E2	H - 1	TP2	B - 3
E3	A - 7	TP3	D - 3
E4	H - 7	TP4	D - 3
		TP5	F - 2
ICA3	A - 3	TP6	G - 2
		TP7	G - 2
ICB1	B - 1	TP8	D - 4
ICB2	B - 2		
ICB3	B - 3	X1	B - 2
ICB4	B - 4	X2	E - 4
ICB5	B - 5		
ICB6	B - 6		
ICB7	B - 7		
ICC1	C - 1		
ICC2	C - 2		
ICC4	C - 4		
ICC7	C - 7		
ICD2	D - 2		
ICD6	D - 6		
ICD7	D - 7		
ICE4	E - 4		
ICE6	E - 6		
ICF2	F - 2		
ICF3	F - 3		
ICF7	F - 7		
ICG2	G - 2		
ICH2	H - 2		
ICH5	H - 5		
ICH6	H - 6		
JW1	C - 1		
JW2	G - 7		
JW3	E - 3		
ND1	H - 7		
Q5	F - 1		
Q6	F - 2		
Q7	H - 1		
Q8	H - 1		
Q9	H - 1		
Q10	H - 1		
Q11	H - 2		
Q12	H - 2		
Q13	H - 2		
Q14	H - 2		
Q15	H - 2		
Q16	H - 2		
Q17	H - 2		
Q18	H - 2		
Q19	H - 3		



CPU-68 -COMPONENT SIDE-

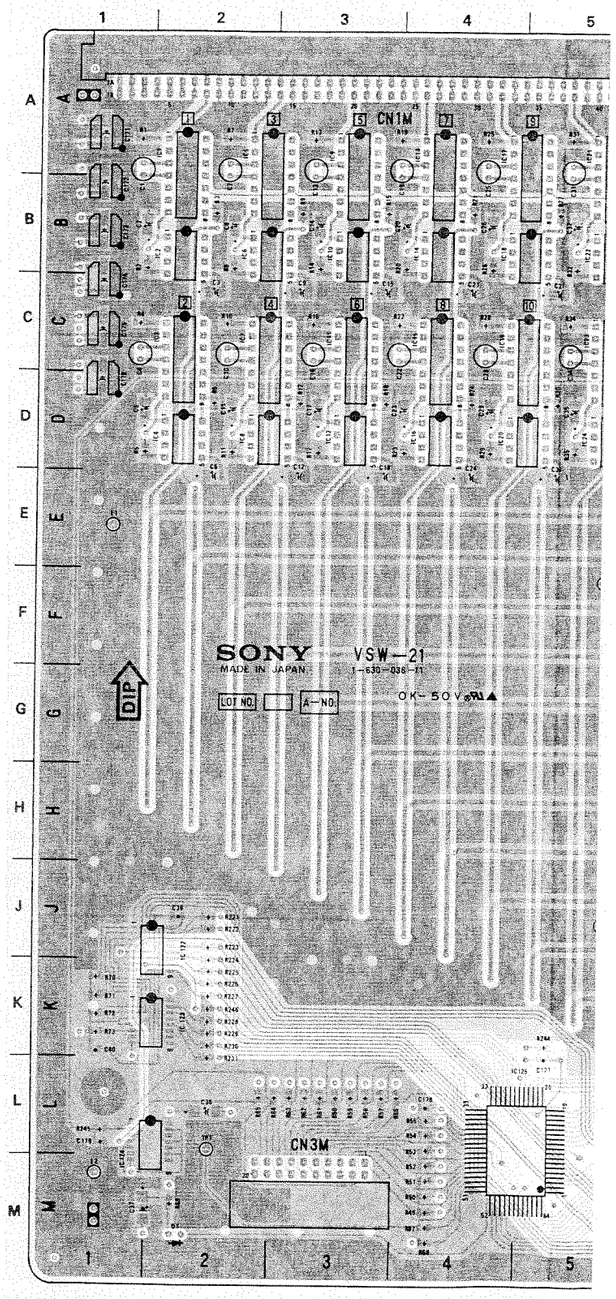
1-630-040-11 (1)
BVS-A1212
BVS-V1212

VSW-21; VIDEO MATRIX BOARD

BVS-V1212

VSW-21 (1-630-036-11)

CN1	A - 3	IC59	J - 8	RV5	C - 8
CN2	A - 9	IC60	K - 8	RV6	C - 9
CN3	L - 3	IC61	E - 9	RV7	C - 9
		IC62	F - 9	RV8	C - 10
CV1	B - 6	IC63	G - 9	RV9	C - 10
CV2	B - 6	IC64	H - 9	RV10	C - 11
CV3	B - 7	IC65	J - 9	RV11	C - 11
CV4	B - 7	IC66	K - 9	RV12	C - 12
CV5	B - 8	IC67	E - 9	RV13	C - 12
CV6	B - 8	IC68	F - 9		
CV7	B - 9	IC69	G - 9	TP1	L - 2
CV8	B - 9	IC70	H - 9		
CV9	B - 10	IC71	J - 9		
CV10	B - 10	IC72	K - 9		
CV11	B - 11	IC73	E - 10		
CV12	B - 11	IC74	F - 10		
CV13	B - 12	IC75	G - 10		
		IC76	H - 10		
D1	M - 2	IC77	J - 10		
D2	D - 12	IC78	K - 10		
		IC79	E - 10		
E1	E - 1	IC80	F - 10		
E2	M - 1	IC81	G - 10		
E3	F - 5	IC82	H - 10		
E4	J - 5	IC83	J - 10		
E5	D - 12	IC84	K - 10		
E6	M - 11	IC85	E - 11		
		IC86	F - 11		
IC1	A - 2	IC87	G - 11		
IC2	B - 2	IC88	H - 11		
IC3	C - 2	IC89	J - 11		
IC4	D - 2	IC90	K - 11		
IC5	A - 2	IC91	E - 11		
IC6	B - 2	IC92	F - 11		
IC7	C - 2	IC93	G - 11		
IC8	D - 2	IC94	H - 11		
IC9	A - 3	IC95	J - 11		
IC10	B - 3	IC96	K - 11		
IC11	C - 3	IC97	E - 12		
IC12	D - 3	IC98	F - 12		
IC13	A - 4	IC99	G - 12		
IC14	B - 4	IC100	J - 12		
IC15	C - 4	IC101	H - 12		
IC16	D - 4	IC102	K - 12		
IC17	A - 4	IC103	D - 6		
IC18	B - 4	IC104	D - 7		
IC19	C - 4	IC105	D - 8		
IC20	D - 4	IC106	D - 9		
IC21	A - 5	IC107	D - 10		
IC22	B - 5	IC108	D - 11		
IC23	C - 5	IC109	B - 6		
IC24	D - 5	IC110	B - 6		
IC25	E - 6	IC111	B - 7		
IC26	F - 6	IC112	B - 7		
IC27	G - 6	IC113	B - 8		
IC28	H - 6	IC114	B - 8		
IC29	J - 6	IC115	B - 9		
IC30	K - 6	IC116	B - 9		
IC31	E - 6	IC117	B - 10		
IC32	F - 6	IC118	B - 10		
IC33	G - 6	IC119	B - 11		
IC34	H - 6	IC120	B - 11		
IC35	J - 6	IC121	B - 12		
IC36	K - 6	IC122	J - 2		
IC37	E - 7	IC123	K - 2		
IC38	F - 7	IC124	M - 1		
IC39	G - 7	IC125	L - 5		
IC40	H - 7				
IC41	J - 7	Q1	C - 6		
IC42	K - 7	Q2	C - 6		
IC43	E - 7	Q3	C - 7		
IC44	F - 7	Q4	C - 7		
IC45	G - 7	Q5	C - 8		
IC46	H - 7	Q6	C - 8		
IC47	J - 7	Q7	C - 9		
IC48	K - 7	Q8	C - 9		
IC49	E - 8	Q9	C - 10		
IC50	F - 8	Q10	C - 10		
IC51	G - 8	Q11	C - 11		
IC52	H - 8	Q12	C - 11		
IC53	J - 8	Q13	C - 12		
IC54	K - 8				
IC55	E - 8	RV1	C - 6		
IC56	F - 8	RV2	C - 7		
IC57	G - 8	RV3	C - 7		
IC58	H - 8	RV4	C - 8		

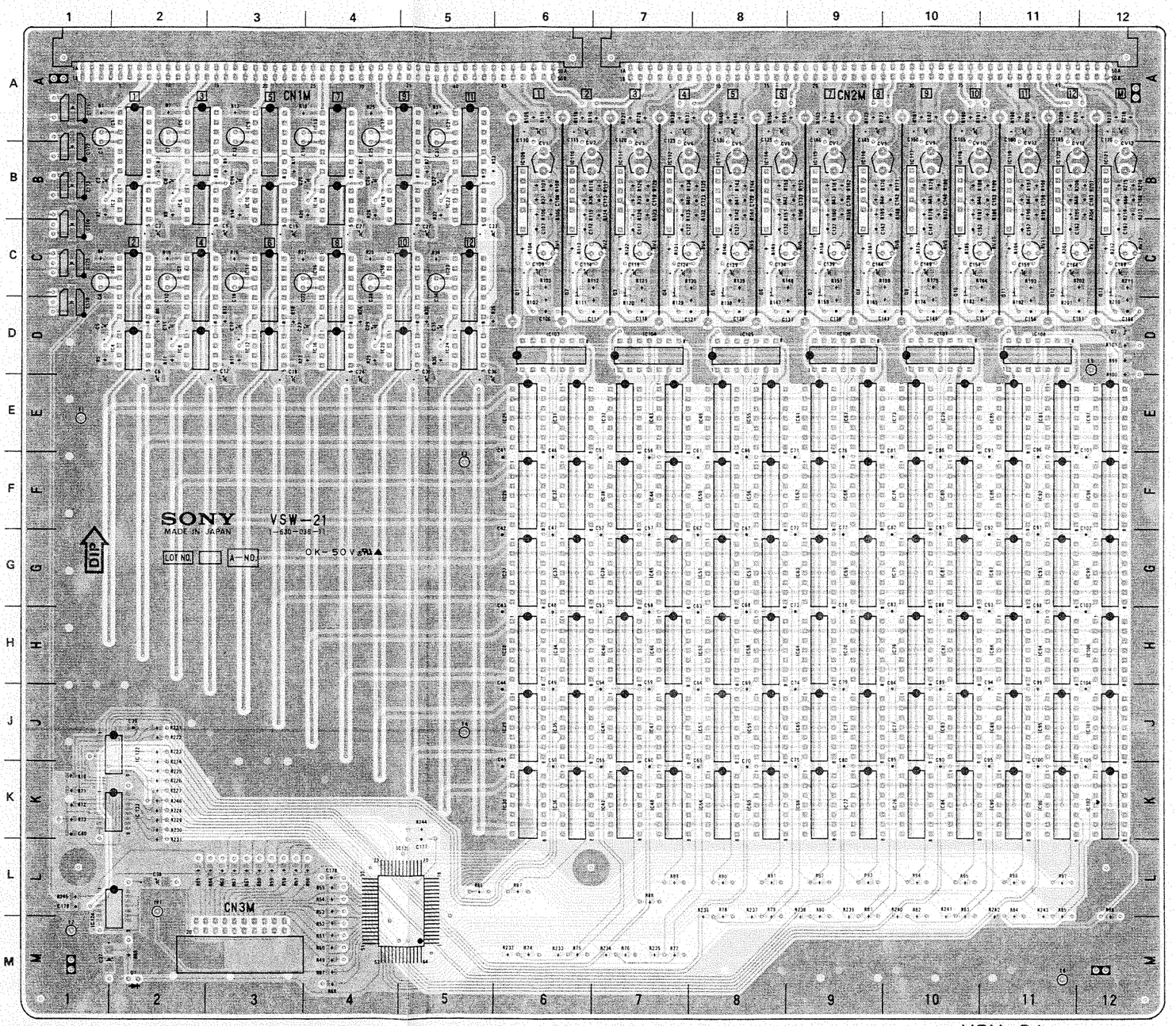


VSW-21; VIDEO MATRIX BOARD

BVS-V1212

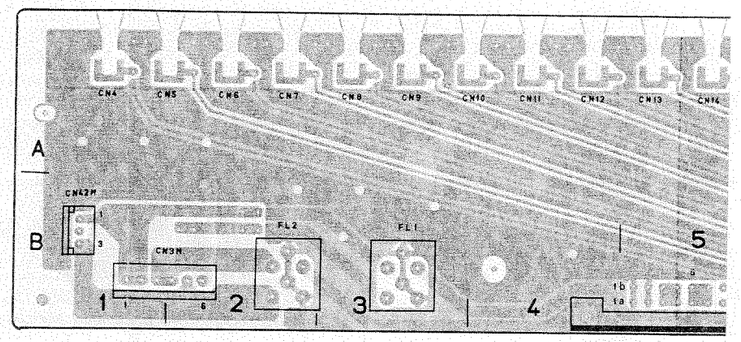
VSW-21 (1-630-036-11)

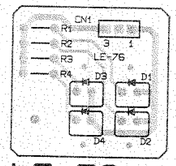
CN1	A - 3	IC59	J - 8	RV5	C - 8
CN2	A - 9	IC60	K - 8	RV6	C - 9
CN3	L - 3	IC61	E - 9	RV7	C - 9
		IC62	F - 9	RV8	C - 10
CV1	B - 6	IC63	G - 9	RV9	C - 10
CV2	B - 6	IC64	H - 9	RV10	C - 11
CV3	B - 7	IC65	J - 9	RV11	C - 11
CV4	B - 7	IC66	K - 9	RV12	C - 12
CV5	B - 8	IC67	E - 9	RV13	C - 12
CV6	B - 8	IC68	F - 9		
CV7	B - 9	IC69	G - 9	TP1	L - 2
CV8	B - 9	IC70	H - 9		
CV9	B - 10	IC71	J - 9		
CV10	B - 10	IC72	K - 9		
CV11	B - 11	IC73	E - 10		
CV12	B - 11	IC74	F - 10		
CV13	B - 12	IC75	G - 10		
		IC76	H - 10		
D1	M - 2	IC77	J - 10		
D2	D - 12	IC78	K - 10		
		IC79	E - 10		
E1	E - 1	IC80	F - 10		
E2	M - 1	IC81	G - 10		
E3	F - 5	IC82	H - 10		
E4	J - 5	IC83	J - 10		
E5	D - 12	IC84	K - 10		
E6	M - 11	IC85	E - 11		
		IC86	F - 11		
IC1	A - 2	IC87	G - 11		
IC2	B - 2	IC88	H - 11		
IC3	C - 2	IC89	J - 11		
IC4	D - 2	IC90	K - 11		
IC5	A - 2	IC91	E - 11		
IC6	B - 2	IC92	F - 11		
IC7	C - 2	IC93	G - 11		
IC8	D - 2	IC94	H - 11		
IC9	A - 3	IC95	J - 11		
IC10	B - 3	IC96	K - 11		
IC11	C - 3	IC97	E - 12		
IC12	D - 3	IC98	F - 12		
IC13	A - 4	IC99	G - 12		
IC14	B - 4	IC100	J - 12		
IC15	C - 4	IC101	H - 12		
IC16	D - 4	IC102	K - 12		
IC17	A - 4	IC103	D - 6		
IC18	B - 4	IC104	D - 7		
IC19	C - 4	IC105	D - 8		
IC20	D - 4	IC106	D - 9		
IC21	A - 5	IC107	D - 10		
IC22	B - 5	IC108	D - 11		
IC23	C - 5	IC109	B - 6		
IC24	D - 5	IC110	B - 6		
IC25	E - 6	IC111	B - 7		
IC26	F - 6	IC112	B - 7		
IC27	G - 6	IC113	B - 8		
IC28	H - 6	IC114	B - 8		
IC29	J - 6	IC115	B - 9		
IC30	K - 6	IC116	B - 9		
IC31	E - 6	IC117	B - 10		
IC32	F - 6	IC118	B - 10		
IC33	G - 6	IC119	B - 11		
IC34	H - 6	IC120	B - 11		
IC35	J - 6	IC121	B - 12		
IC36	K - 6	IC122	J - 2		
IC37	E - 7	IC123	K - 2		
IC38	F - 7	IC124	M - 1		
IC39	G - 7	IC125	L - 5		
IC40	H - 7				
IC41	J - 7	Q1	C - 6		
IC42	K - 7	Q2	C - 6		
IC43	E - 7	Q3	C - 7		
IC44	F - 7	Q4	C - 7		
IC45	G - 7	Q5	C - 8		
IC46	H - 7	Q6	C - 8		
IC47	J - 7	Q7	C - 9		
IC48	K - 7	Q8	C - 9		
IC49	E - 8	Q9	C - 10		
IC50	F - 8	Q10	C - 10		
IC51	G - 8	Q11	C - 11		
IC52	H - 8	Q12	C - 11		
IC53	J - 8	Q13	C - 12		
IC54	K - 8				
IC55	E - 8	RV1	C - 6		
IC56	F - 8	RV2	C - 7		
IC57	G - 8	RV3	C - 7		
IC58	H - 8	RV4	C - 8		



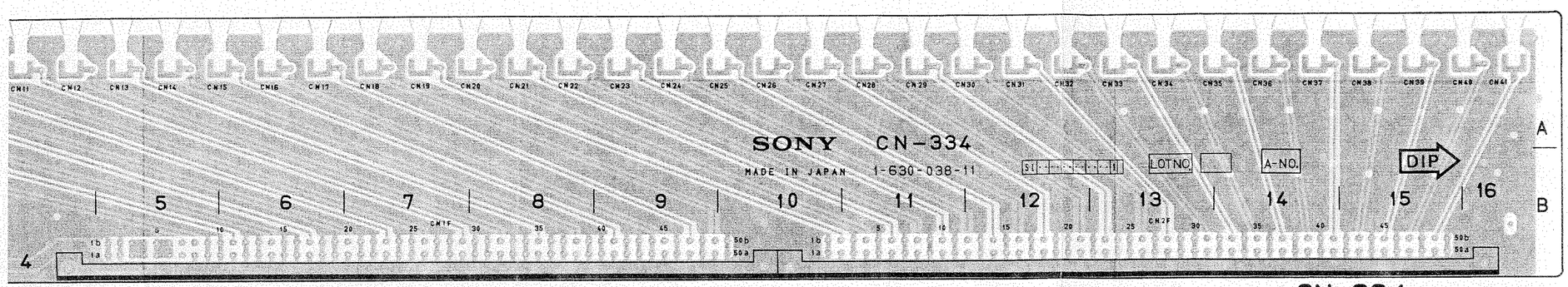
VSW-21 -COMPONENT SIDE-
1-630-036-11 (1)
BVS-V1212

CN-334; CONNECTOR BOARD
LE-76 ; LED BOARD





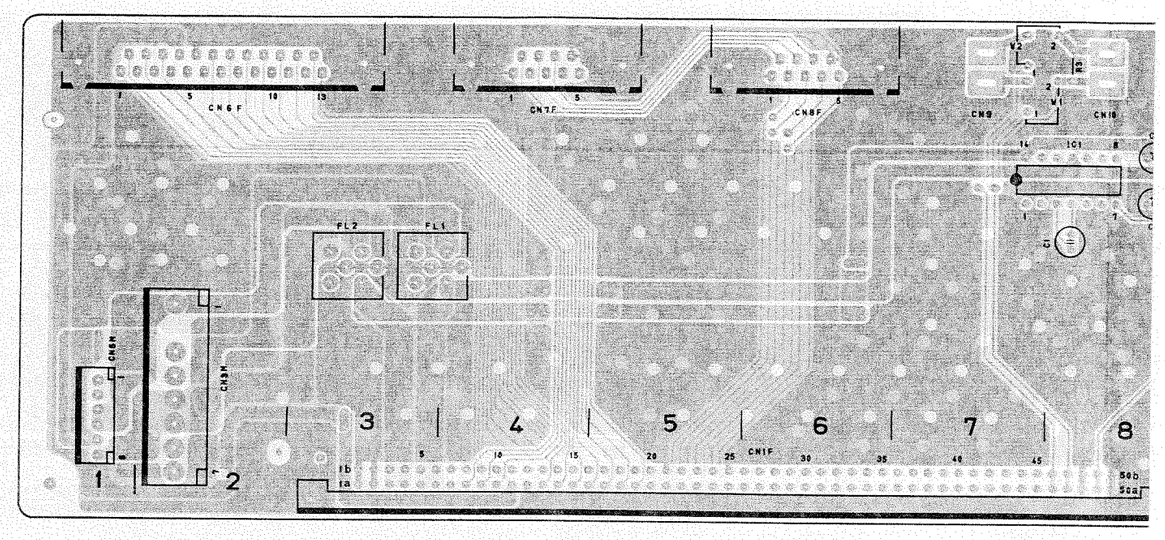
LE-76
-COMPONENT SIDE-
1-631-489-11 (1)
BVS-A1201
BVS-V1201
BVS-A1212
BVS-V1212



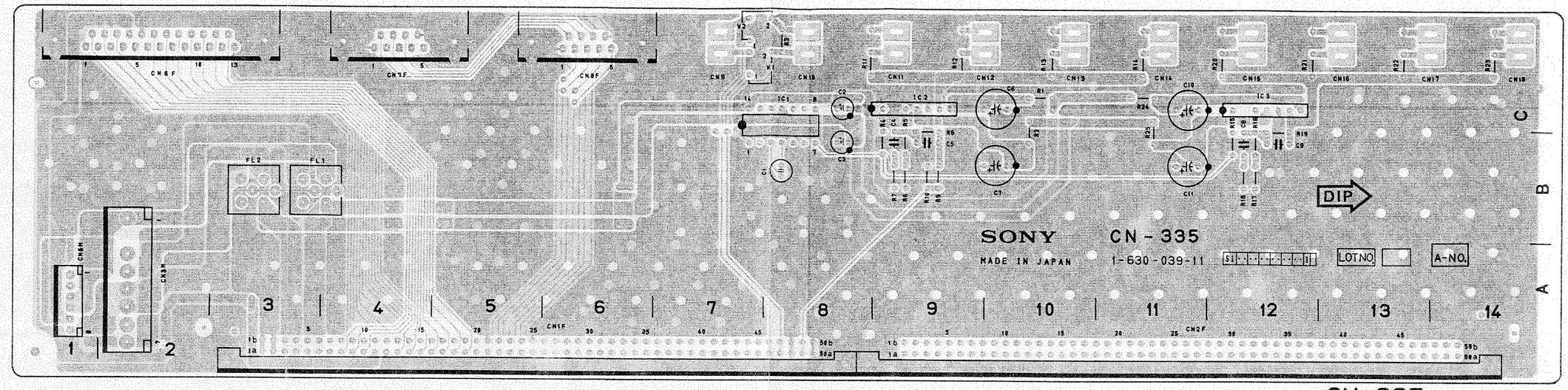
CN-334 -COMPONENT SIDE-

1-630-038-11 (1)
BVS-V1212

CN-335; REF DA BOARD



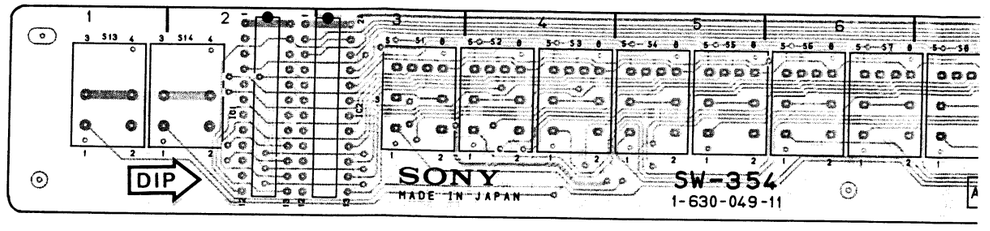
CN-335; REF DA BOARD



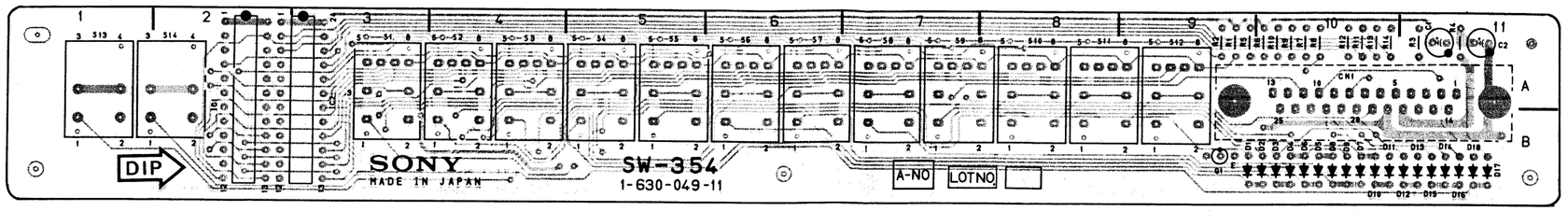
CN-335 -COMPONENT SIDE-

1-630-039-11 (1)
BVS-V1212

BKS-R1210
SW-354; SWITCH BOARD



BKS-R1210
SW-354; SWITCH BOARD



SW-354 -COMPONENT SIDE-

1-630-049-11 (1)
BVS-V1201
BKS-R1210

SECTION 9
SPARE PARTS AND FIXTURE

9-1. PARTS INFORMATION

(1) The shaded and ⚠ -marked components are critical to safety.
Replace only with the same components as specified.

(2) Replacement parts supplied from the Sony Parts Center will sometimes have a different shape and outside view from the parts which are used in the unit. This is due to "accommodating improved parts and/or engineering changes" or "standardization of genuine parts".
- This manual's exploded views and electrical spare parts lists indicate the part numbers of "the present standardized genuine parts".
- Regarding engineering part changes by our engineering department, refer to Sony service bulletins and service manual supplements.

(3) The parts marked with "s" in the SP column of the exploded views and electrical spare parts lists are normally stocked for replacement purposes. The parts marked with "o" in the SP column are not normally required for routine service work. Orders for parts marked with "o" will be processed, but allow for additional delivery time.

(4) Item with no part number and/or no description are not stocked because they are seldom required for routine service.

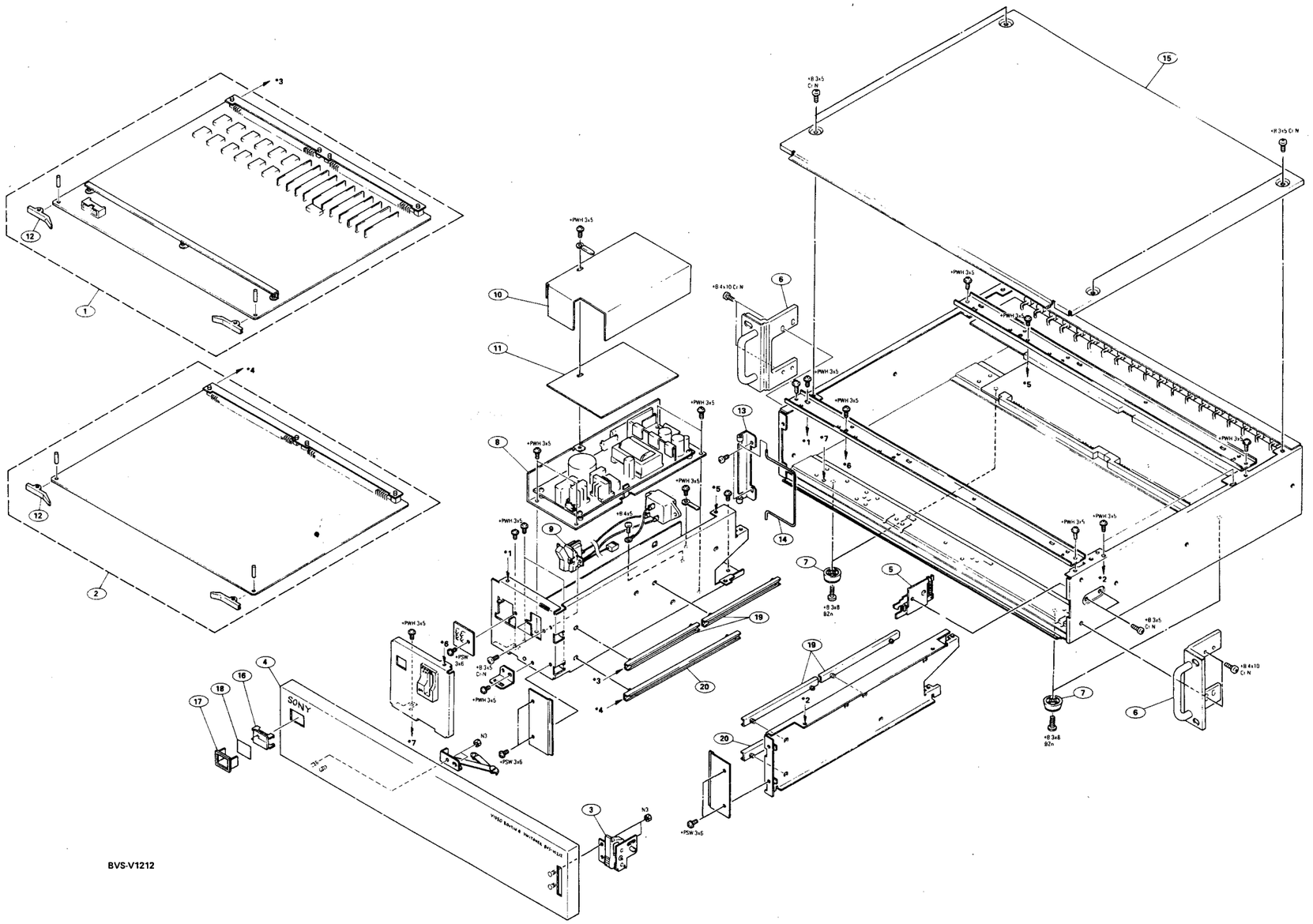
(5) (T) after a spring description is shown on the exploded views in order to indicate the number of a spring turn required for the use.
(Example)
Spring, tension (24T); This spring must be cut at its 24th turn for actual use.

9-2. EXPLODED VIEW

- Exploded views are composed of the following blocks.

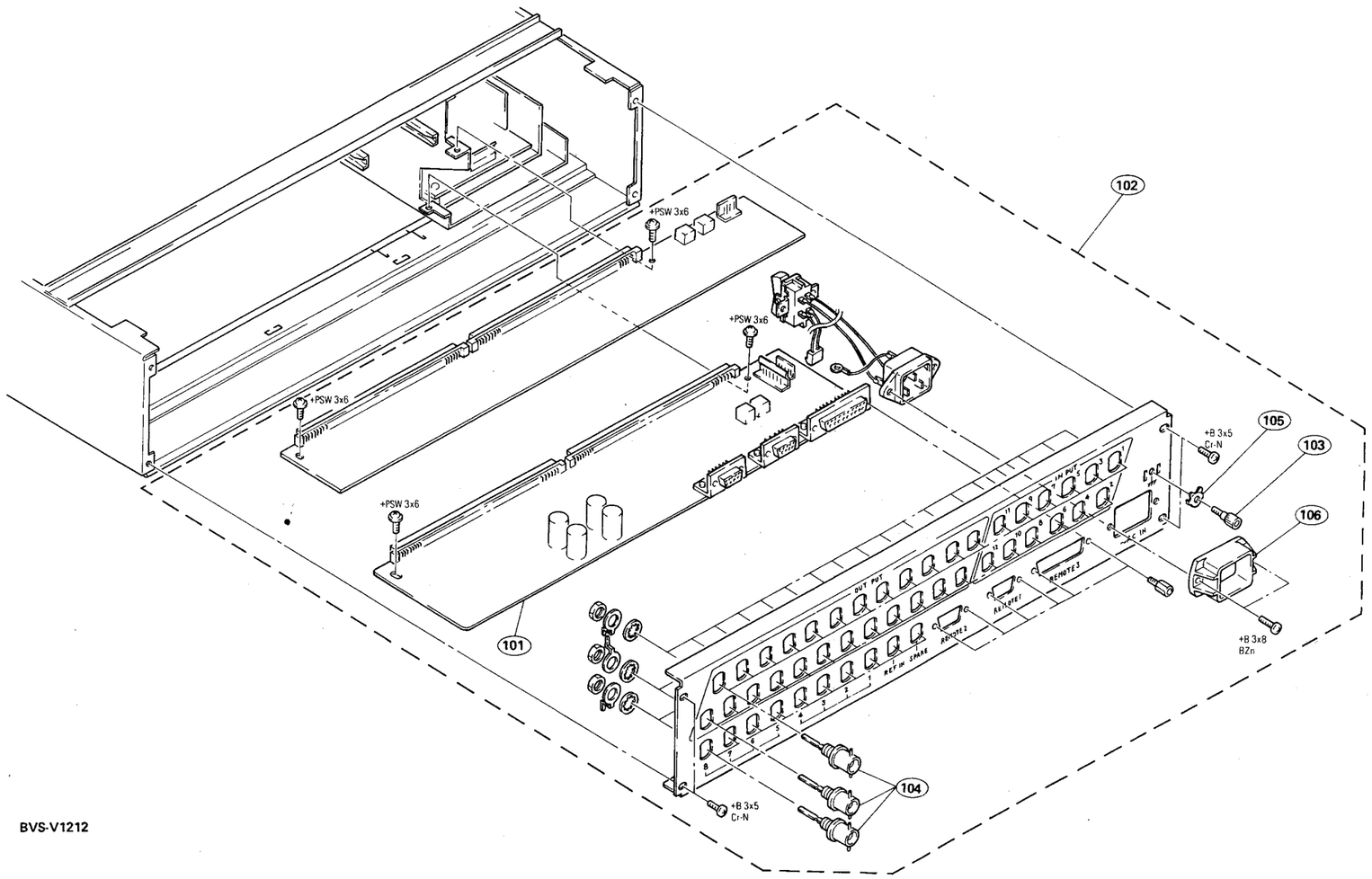
(1) Chassis
(2) Rear Panel
(3) BKS-R1210

Chassis



1		A-6257-240-A	o MOUNTED CIRCUIT BOARD, VSW-21
2		A-6267-177-A	o MOUNTED CIRCUIT BOARD, CPU-68
3		A-6279-484-A	o HANDLE ASSY, DOOR
4		X-2127-210-1	o PANEL (V2) ASSY, F
5		X-2127-216-1	o LOCK ASSY, DOOR
6		X-2182-903-1	o ANGLE ASSY (2U), RACK
7		X-3556-910-0	o FOOT ASSY, MF
8	⚠	1-413-462-11	s REGULATOR, SWITCHING(ED-111)
9	⚠	1-570-384-11	s SWITCH, SEESAW(AC POWER)
10		2-130-274-01	o CASE(A), SHIELD
11		2-139-022-01	o SHEET, INSULATING
12		2-182-909-02	o LEVER, PC BOARD
13		2-182-920-01	o HINGE (2U)
14		2-182-921-01	o SHAFT (2U), HINGE
15		2-182-935-01	o PLATE (D350), TOP
16		2-249-303-01	o WINDOW (2), REMOTE CONTROL
17		2-249-304-02	o FRAME (2), WINDOW, REMOTE CONTROL
18		2-249-353-01	o COVER, LAMP
19		3-673-676-11	o RAIL, PC BOARD GUIDE
20		3-673-676-21	o RAIL, PC BOARD GUIDE

Rear Panel

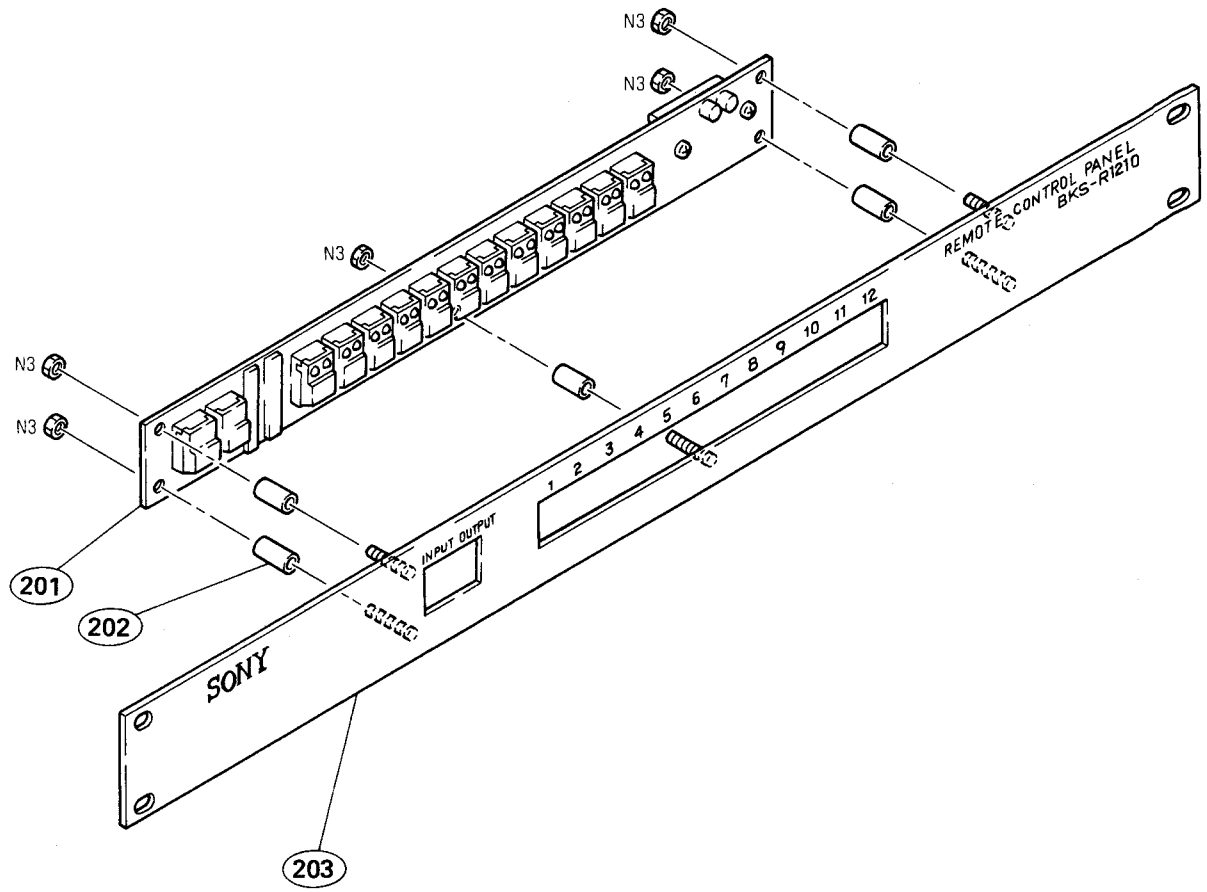


BVS-V1212

Ref. No. or Q'ty	Part No.	SP	Description
101	A-6257-242-A	o	MOUNTED CIRCUIT BOARD, CN-335
102	A-6274-291-A	o	PANEL (V2) ASSY, REAR
103	X-2068-004-1	s	TERMINAL ASSY
104	1-568-312-31	s	CONNECTOR, BNC
105	2-068-008-01	s	WASHER
106	2-990-241-01	o	HOLDER (A), PLUG

BKS-R1210

Ref. No. or Q'ty	Part No.	SP	Description
201	A-6267-176-A	o	MOUNTED CIRCUIT BOARD, SW-354
202	2-130-286-01	o	PANEL, REMOTE CONTROL
203	2-130-283-01	o	SPACER



9-3. ELECTRICAL PARTS LIST

ABBREVIATIONS

Ref. No.	Description	Ref. No.	Description	Ref. No.	Description
C□□, CT□□	CAPACITOR	IC□□	IC	Q□□	TRANSISTOR
CF□□	CERAMIC FILTER	J□□	JACK	R□□, RV□□	RESISTOR
CN□□	CONNECTOR	L□□	INDUCTOR	RY□□	RELAY
D□□	DIODE	M□□	MOTOR	S□□, SW□□	SWITCH
DL□□	DELAY LINE	ME□□	METER	SB□□	SOLAR BATTERY
F□□	FUSE	MIC□□	MICROPHONE	T□□	TRANSFORMER
FB□□	FERRITE BEAD	PG□□	PG COIL	TH□□	THERMISTOR
FL□□	FILTER	PL□□	LAMP	X□□	CRYSTAL
H□□	HEAD	PM□□	SOLENOIDE		

All capacitors are in micro farads unless otherwise specified.

All inductors are in micro henries unless otherwise specified.

All resistors are in ohms.

General Purpose Electrical Parts List

Parts that are not listed in the "reference numbers order list" are shown in following list.
Reference numbers are omitted.

RESISTOR, CHIP METAL

Part No.	SP	Description
1-216-603-11	s	RES, CHIP METAL 10 1% 1/10W
1-216-605-11	s	RES, CHIP METAL 12 1% 1/10W
1-216-609-11	s	RES, CHIP METAL 18 1% 1/10W
1-216-611-11	s	RES, CHIP METAL 22 1% 1/10W
1-216-614-11	s	RES, CHIP METAL 30 1% 1/10W
1-216-617-11	s	RES, CHIP METAL 39 1% 1/10W
1-216-619-11	s	RES, CHIP METAL 47 1% 1/10W
1-216-620-11	s	RES, CHIP METAL 51 1% 1/10W
1-216-623-11	s	RES, CHIP METAL 68 1% 1/10W
1-216-624-11	s	RES, CHIP METAL 75 1% 1/10W
1-216-625-11	s	RES, CHIP METAL 82 1% 1/10W
1-216-626-11	s	RES, CHIP METAL 91 1% 1/10W
1-216-627-11	s	RES, CHIP METAL 100 1% 1/10W
1-216-629-11	s	RES, CHIP METAL 120 1% 1/10W
1-216-631-11	s	RES, CHIP METAL 150 1% 1/10W
1-216-633-11	s	RES, CHIP METAL 180 1% 1/10W
1-216-634-11	s	RES, CHIP METAL 200 1% 1/10W
1-216-635-11	s	RES, CHIP METAL 220 1% 1/10W
1-216-636-11	s	RES, CHIP METAL 240 1% 1/10W
1-216-637-11	s	RES, CHIP METAL 270 1% 1/10W
1-216-638-11	s	RES, CHIP METAL 300 1% 1/10W
1-216-639-11	s	RES, CHIP METAL 330 1% 1/10W
1-216-640-11	s	RES, CHIP METAL 360 1% 1/10W
1-216-641-11	s	RES, CHIP METAL 390 1% 1/10W
1-216-642-11	s	RES, CHIP METAL 430 1% 1/10W
1-216-643-11	s	RES, CHIP METAL 470 1% 1/10W
1-216-644-11	s	RES, CHIP METAL 510 1% 1/10W
1-216-645-11	s	RES, CHIP METAL 560 1% 1/10W
1-216-647-11	s	RES, CHIP METAL 680 1% 1/10W
1-216-648-11	s	RES, CHIP METAL 750 1% 1/10W
1-216-649-11	s	RES, CHIP METAL 820 1% 1/10W
1-216-650-11	s	RES, CHIP METAL 910 1% 1/10W
1-216-651-11	s	RES, CHIP METAL 1.0k 1% 1/10W
1-216-652-11	s	RES, CHIP METAL 1.1k 1% 1/10W
1-216-653-11	s	RES, CHIP METAL 1.2k 1% 1/10W
1-216-655-11	s	RES, CHIP METAL 1.5k 1% 1/10W
1-216-656-11	s	RES, CHIP METAL 1.6k 1% 1/10W
1-216-657-11	s	RES, CHIP METAL 1.8k 1% 1/10W
1-216-658-11	s	RES, CHIP METAL 2k 1% 1/10W
1-216-659-11	s	RES, CHIP METAL 2.2k 1% 1/10W
1-216-660-11	s	RES, CHIP METAL 2.4k 1% 1/10W
1-216-661-11	s	RES, CHIP METAL 2.7k 1% 1/10W
1-216-662-11	s	RES, CHIP METAL 3k 1% 1/10W
1-216-663-11	s	RES, CHIP METAL 3.3k 1% 1/10W
1-216-664-11	s	RES, CHIP METAL 3.5k 1% 1/10W
1-216-665-11	s	RES, CHIP METAL 3.9k 1% 1/10W
1-216-666-11	s	RES, CHIP METAL 4.3k 1% 1/10W
1-216-667-11	s	RES, CHIP METAL 4.7k 1% 1/10W
1-216-668-11	s	RES, CHIP METAL 5.1k 1% 1/10W
1-216-669-11	s	RES, CHIP METAL 5.6k 1% 1/10W

RESISTOR, CHIP METAL

Part No.	SP	Description
1-216-670-11	s	RES, CHIP METAL 6.2k 1% 1/10W
1-216-671-11	s	RES, CHIP METAL 6.8k 1% 1/10W
1-216-672-11	s	RES, CHIP METAL 7.5k 1% 1/10W
1-216-673-11	s	RES, CHIP METAL 8.2k 1% 1/10W
1-216-674-11	s	RES, CHIP METAL 9.1k 1% 1/10W
1-216-675-11	s	RES, CHIP METAL 10k 1% 1/10W
1-216-676-11	s	RES, CHIP METAL 11k 1% 1/10W
1-216-677-11	s	RES, CHIP METAL 12k 1% 1/10W
1-216-678-11	s	RES, CHIP METAL 13k 1% 1/10W
1-216-679-11	s	RES, CHIP METAL 15k 1% 1/10W
1-216-680-11	s	RES, CHIP METAL 16k 1% 1/10W
1-216-681-11	s	RES, CHIP METAL 18k 1% 1/10W
1-216-682-11	s	RES, CHIP METAL 20k 1% 1/10W
1-216-683-11	s	RES, CHIP METAL 22k 1% 1/10W
1-216-684-11	s	RES, CHIP METAL 24k 1% 1/10W
1-216-685-11	s	RES, CHIP METAL 27k 1% 1/10W
1-216-686-11	s	RES, CHIP METAL 30k 1% 1/10W
1-216-687-11	s	RES, CHIP METAL 33k 1% 1/10W
1-216-688-11	s	RES, CHIP METAL 36k 1% 1/10W
1-216-689-11	s	RES, CHIP METAL 39k 1% 1/10W
1-216-690-11	s	RES, CHIP METAL 43k 1% 1/10W
1-216-691-11	s	RES, CHIP METAL 49k 1% 1/10W
1-216-692-11	s	RES, CHIP METAL 51k 1% 1/10W
1-216-693-11	s	RES, CHIP METAL 56k 1% 1/10W
1-216-694-11	s	RES, CHIP METAL 62k 1% 1/10W
1-216-695-11	s	RES, CHIP METAL 68k 1% 1/10W
1-216-696-11	s	RES, CHIP METAL 75k 1% 1/10W
1-216-697-11	s	RES, CHIP METAL 82k 1% 1/10W
1-216-698-11	s	RES, CHIP METAL 91k 1% 1/10W
1-216-699-11	s	RES, CHIP METAL 100k 1% 1/10W

VSW-21 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6257-240-A	o	MOUNTED CIRCUIT BOARD, VSW-21
1pc	2-139-014-41	o	LABEL, PC BOARD NAME
1pc	2-182-909-01	o	LEVER, PC BOARD
2pcs	7-626-320-11	o	PIN, SPRING 3x8
C1	1-124-287-00	s	ELECT 10uF 20% 10V
C2	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C3	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C4	1-124-287-00	s	ELECT 10uF 20% 10V
C5	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C6	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C7	1-124-287-00	s	ELECT 10uF 20% 10V
C8	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C9	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C10	1-124-287-00	s	ELECT 10uF 20% 10V
C11	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C12	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C13	1-124-287-00	s	ELECT 10uF 20% 10V
C14	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C15	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C16	1-124-287-00	s	ELECT 10uF 20% 10V
C17	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C18	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C19	1-124-287-00	s	ELECT 10uF 20% 10V
C20	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C21	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C22	1-124-287-00	s	ELECT 10uF 20% 10V
C23	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C24	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C25	1-124-287-00	s	ELECT 10uF 20% 10V
C26	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C27	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C28	1-124-287-00	s	ELECT 10uF 20% 10V
C29	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C30	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C31	1-124-287-00	s	ELECT 10uF 20% 10V
C32	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C33	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C34	1-124-287-00	s	ELECT 10uF 20% 10V
C35	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C36	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C37	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C38	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C39	1-163-038-00	s	CERAMIC 0.1 25V
C40	1-163-038-00	s	CERAMIC 0.1 25V
C41	1-163-038-00	s	CERAMIC 0.1 25V
C42	1-163-038-00	s	CERAMIC 0.1 25V
C43	1-163-038-00	s	CERAMIC 0.1 25V
C44	1-163-038-00	s	CERAMIC 0.1 25V
C45	1-163-038-00	s	CERAMIC 0.1 25V
C46	1-163-038-00	s	CERAMIC 0.1 25V
C47	1-163-038-00	s	CERAMIC 0.1 25V
C48	1-163-038-00	s	CERAMIC 0.1 25V
C49	1-163-038-00	s	CERAMIC 0.1 25V
C50	1-163-038-00	s	CERAMIC 0.1 25V
C51	1-163-038-00	s	CERAMIC 0.1 25V
C52	1-163-038-00	s	CERAMIC 0.1 25V
C53	1-163-038-00	s	CERAMIC 0.1 25V
C54	1-163-038-00	s	CERAMIC 0.1 25V
C55	1-163-038-00	s	CERAMIC 0.1 25V

(VSW-21 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C56	1-163-038-00	s	CERAMIC 0.1 25V
C57	1-163-038-00	s	CERAMIC 0.1 25V
C58	1-163-038-00	s	CERAMIC 0.1 25V
C59	1-163-038-00	s	CERAMIC 0.1 25V
C60	1-163-038-00	s	CERAMIC 0.1 25V
C61	1-163-038-00	s	CERAMIC 0.1 25V
C62	1-163-038-00	s	CERAMIC 0.1 25V
C63	1-163-038-00	s	CERAMIC 0.1 25V
C64	1-163-038-00	s	CERAMIC 0.1 25V
C65	1-163-038-00	s	CERAMIC 0.1 25V
C66	1-163-038-00	s	CERAMIC 0.1 25V
C67	1-163-038-00	s	CERAMIC 0.1 25V
C68	1-163-038-00	s	CERAMIC 0.1 25V
C69	1-163-038-00	s	CERAMIC 0.1 25V
C70	1-163-038-00	s	CERAMIC 0.1 25V
C71	1-163-038-00	s	CERAMIC 0.1 25V
C72	1-163-038-00	s	CERAMIC 0.1 25V
C73	1-163-038-00	s	CERAMIC 0.1 25V
C74	1-163-038-00	s	CERAMIC 0.1 25V
C75	1-163-038-00	s	CERAMIC 0.1 25V
C76	1-163-038-00	s	CERAMIC 0.1 25V
C77	1-163-038-00	s	CERAMIC 0.1 25V
C78	1-163-038-00	s	CERAMIC 0.1 25V
C79	1-163-038-00	s	CERAMIC 0.1 25V
C80	1-163-038-00	s	CERAMIC 0.1 25V
C81	1-163-038-00	s	CERAMIC 0.1 25V
C82	1-163-038-00	s	CERAMIC 0.1 25V
C83	1-163-038-00	s	CERAMIC 0.1 25V
C84	1-163-038-00	s	CERAMIC 0.1 25V
C85	1-163-038-00	s	CERAMIC 0.1 25V
C86	1-163-038-00	s	CERAMIC 0.1 25V
C87	1-163-038-00	s	CERAMIC 0.1 25V
C88	1-163-038-00	s	CERAMIC 0.1 25V
C89	1-163-038-00	s	CERAMIC 0.1 25V
C90	1-163-038-00	s	CERAMIC 0.1 25V
C91	1-163-038-00	s	CERAMIC 0.1 25V
C92	1-163-038-00	s	CERAMIC 0.1 25V
C93	1-163-038-00	s	CERAMIC 0.1 25V
C94	1-163-038-00	s	CERAMIC 0.1 25V
C95	1-163-038-00	s	CERAMIC 0.1 25V
C96	1-163-038-00	s	CERAMIC 0.1 25V
C97	1-163-038-00	s	CERAMIC 0.1 25V
C98	1-163-038-00	s	CERAMIC 0.1 25V
C99	1-163-038-00	s	CERAMIC 0.1 25V
C100	1-163-038-00	s	CERAMIC 0.1 25V
C101	1-163-038-00	s	CERAMIC 0.1 25V
C102	1-163-038-00	s	CERAMIC 0.1 25V
C103	1-163-038-00	s	CERAMIC 0.1 25V
C104	1-163-038-00	s	CERAMIC 0.1 25V
C105	1-163-038-00	s	CERAMIC 0.1 25V
C106	1-163-038-00	s	CERAMIC 0.1 25V
C107	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C108	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C109	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C110	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C111	1-163-038-00	s	CERAMIC 0.1 25V
C112	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C113	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C114	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(VSW-21 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C115	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C116	1-163-038-00	s	CERAMIC 0.1 25V
C117	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C118	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C119	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C120	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C121	1-163-038-00	s	CERAMIC 0.1 25V
C122	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C123	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C124	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C125	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C126	1-163-038-00	s	CERAMIC 0.1 25V
C127	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C128	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C129	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C130	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C131	1-163-038-00	s	CERAMIC 0.1 25V
C132	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C133	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C134	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C135	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C136	1-163-038-00	s	CERAMIC 0.1 25V
C137	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C138	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C139	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C140	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C141	1-163-038-00	s	CERAMIC 0.1 25V
C142	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C143	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C144	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C145	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C146	1-163-038-00	s	CERAMIC 0.1 25V
C147	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C148	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C149	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C150	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C151	1-163-038-00	s	CERAMIC 0.1 25V
C152	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C153	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C154	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C155	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C156	1-163-038-00	s	CERAMIC 0.1 25V
C157	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C158	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C159	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C160	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C161	1-163-038-00	s	CERAMIC 0.1 25V
C162	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C163	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C164	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C165	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C166	1-163-038-00	s	CERAMIC 0.1 25V
C167	1-163-085-00	s	CERAMIC 2PF 0.25PF 50V
C168	1-163-083-00	s	CERAMIC 1PF 0.25PF 50V
C169	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C170	1-135-156-21	s	TANTAL 6.8uF 10% 6.3V
C171	1-126-392-11	s	ELECT 100uF 20% 6.3V
C172	1-126-392-11	s	ELECT 100uF 20% 6.3V
C173	1-126-392-11	s	ELECT 100uF 20% 6.3V

(VSW-21 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C174	1-126-392-11	s	ELECT 100uF 20% 6.3V
C175	1-126-392-11	s	ELECT 100uF 20% 6.3V
C176	1-126-392-11	s	ELECT 100uF 20% 6.3V
C177	1-163-038-00	s	CERAMIC 0.1 25V
C178	1-163-038-00	s	CERAMIC 0.1 25V
C179	1-163-141-00	s	CERAMIC 0.001uF 5% 50V
CN1M	1-566-986-11	o	CONNECTOR, MULTI 100P
CN2M	1-566-986-11	o	CONNECTOR, MULTI 100P
CN3M	1-564-359-00	o	HEADER, CONNECTOR 20P
CV1	1-141-304-21	s	TRIMMER, CERAMIC
CV2	1-141-304-21	s	TRIMMER, CERAMIC
CV3	1-141-304-21	s	TRIMMER, CERAMIC
CV4	1-141-304-21	s	TRIMMER, CERAMIC
CV5	1-141-304-21	s	TRIMMER, CERAMIC
CV6	1-141-304-21	s	TRIMMER, CERAMIC
CV7	1-141-304-21	s	TRIMMER, CERAMIC
CV8	1-141-304-21	s	TRIMMER, CERAMIC
CV9	1-141-304-21	s	TRIMMER, CERAMIC
CV10	1-141-304-21	s	TRIMMER, CERAMIC
CV11	1-141-304-21	s	TRIMMER, CERAMIC
CV12	1-141-304-21	s	TRIMMER, CERAMIC
CV13	1-141-304-21	s	TRIMMER, CERAMIC
D1	8-719-400-35	s	LN35BP
D2	8-719-800-76	s	1SS123-T1
IC1	8-752-038-19	s	CXA1432P
IC2	8-759-925-37	s	HA3-5033-5
IC3	8-752-038-19	s	CXA1432P
IC4	8-759-925-37	s	HA3-5033-5
IC5	8-752-038-19	s	CXA1432P
IC6	8-759-925-37	s	HA3-5033-5
IC7	8-752-038-19	s	CXA1432P
IC8	8-759-925-37	s	HA3-5033-5
IC9	8-752-038-19	s	CXA1432P
IC10	8-759-925-37	s	HA3-5033-5
IC11	8-752-038-19	s	CXA1432P
IC12	8-759-925-37	s	HA3-5033-5
IC13	8-752-038-19	s	CXA1432P
IC14	8-759-925-37	s	HA3-5033-5
IC15	8-752-038-19	s	CXA1432P
IC16	8-759-925-37	s	HA3-5033-5
IC17	8-752-038-19	s	CXA1432P
IC18	8-759-925-37	s	HA3-5033-5
IC19	8-752-038-19	s	CXA1432P
IC20	8-759-925-37	s	HA3-5033-5
IC21	8-752-038-19	s	CXA1432P
IC22	8-759-925-37	s	HA3-5033-5
IC23	8-752-038-19	s	CXA1432P
IC24	8-759-925-37	s	HA3-5033-5
IC25	8-752-038-18	s	CXA1431P
IC26	8-752-038-18	s	CXA1431P
IC27	8-752-038-18	s	CXA1431P
IC28	8-752-038-18	s	CXA1431P
IC29	8-752-038-18	s	CXA1431P
IC30	8-752-038-18	s	CXA1431P
IC31	8-752-038-18	s	CXA1431P
IC32	8-752-038-18	s	CXA1431P
IC33	8-752-038-18	s	CXA1431P

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(VSW-21 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC34	8-752-038-18	s	CXA1431P
IC35	8-752-038-18	s	CXA1431P
IC36	8-752-038-18	s	CXA1431P
IC37	8-752-038-18	s	CXA1431P
IC38	8-752-038-18	s	CXA1431P
IC39	8-752-038-18	s	CXA1431P
IC40	8-752-038-18	s	CXA1431P
IC41	8-752-038-18	s	CXA1431P
IC42	8-752-038-18	s	CXA1431P
IC43	8-752-038-18	s	CXA1431P
IC44	8-752-038-18	s	CXA1431P
IC45	8-752-038-18	s	CXA1431P
IC46	8-752-038-18	s	CXA1431P
IC47	8-752-038-18	s	CXA1431P
IC48	8-752-038-18	s	CXA1431P
IC49	8-752-038-18	s	CXA1431P
IC50	8-752-038-18	s	CXA1431P
IC51	8-752-038-18	s	CXA1431P
IC52	8-752-038-18	s	CXA1431P
IC53	8-752-038-18	s	CXA1431P
IC54	8-752-038-18	s	CXA1431P
IC55	8-752-038-18	s	CXA1431P
IC56	8-752-038-18	s	CXA1431P
IC57	8-752-038-18	s	CXA1431P
IC58	8-752-038-18	s	CXA1431P
IC59	8-752-038-18	s	CXA1431P
IC60	8-752-038-18	s	CXA1431P
IC61	8-752-038-18	s	CXA1431P
IC62	8-752-038-18	s	CXA1431P
IC63	8-752-038-18	s	CXA1431P
IC64	8-752-038-18	s	CXA1431P
IC65	8-752-038-18	s	CXA1431P
IC66	8-752-038-18	s	CXA1431P
IC67	8-752-038-18	s	CXA1431P
IC68	8-752-038-18	s	CXA1431P
IC69	8-752-038-18	s	CXA1431P
IC60	8-752-038-18	s	CXA1431P
IC71	8-752-038-18	s	CXA1431P
IC72	8-752-038-18	s	CXA1431P
IC73	8-752-038-18	s	CXA1431P
IC74	8-752-038-18	s	CXA1431P
IC75	8-752-038-18	s	CXA1431P
IC76	8-752-038-18	s	CXA1431P
IC77	8-752-038-18	s	CXA1431P
IC78	8-752-038-18	s	CXA1431P
IC79	8-752-038-18	s	CXA1431P
IC80	8-752-038-18	s	CXA1431P
IC81	8-752-038-18	s	CXA1431P
IC82	8-752-038-18	s	CXA1431P
IC83	8-752-038-18	s	CXA1431P
IC84	8-752-038-18	s	CXA1431P
IC85	8-752-038-18	s	CXA1431P
IC86	8-752-038-18	s	CXA1431P
IC87	8-752-038-18	s	CXA1431P
IC88	8-752-038-18	s	CXA1431P
IC89	8-752-038-18	s	CXA1431P
IC90	8-752-038-18	s	CXA1431P
IC91	8-752-038-18	s	CXA1431P
IC92	8-752-038-18	s	CXA1431P

(VSW-21 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
IC93	8-752-038-18	s	CXA1431P
IC94	8-752-038-18	s	CXA1431P
IC95	8-752-038-18	s	CXA1431P
IC96	8-752-038-18	s	CXA1431P
IC97	8-752-038-18	s	CXA1431P
IC98	8-752-038-18	s	CXA1431P
IC99	8-752-038-18	s	CXA1431P
IC100	8-752-038-18	s	CXA1431P
IC101	8-752-038-18	s	CXA1431P
IC102	8-752-038-18	s	CXA1431P
IC103	8-752-038-18	s	CXA1431P
IC104	8-752-038-18	s	CXA1431P
IC105	8-752-038-18	s	CXA1431P
IC106	8-752-038-18	s	CXA1431P
IC107	8-752-038-18	s	CXA1431P
IC108	8-752-038-18	s	CXA1431P
IC109	1-808-776-11	s	HIC (V OUT)
IC110	1-808-776-11	s	HIC (V OUT)
IC111	1-808-776-11	s	HIC (V OUT)
IC112	1-808-776-11	s	HIC (V OUT)
IC113	1-808-776-11	s	HIC (V OUT)
IC114	1-808-776-11	s	HIC (V OUT)
IC115	1-808-776-11	s	HIC (V OUT)
IC116	1-808-776-11	s	HIC (V OUT)
IC117	1-808-776-11	s	HIC (V OUT)
IC118	1-808-776-11	s	HIC (V OUT)
IC119	1-808-776-11	s	HIC (V OUT)
IC120	1-808-776-11	s	HIC (V OUT)
IC121	1-808-776-11	s	HIC (V OUT)
IC122	8-759-926-42	s	SN74HC238NS
IC123	8-759-926-42	s	SN74HC238NS
IC124	8-759-204-96	s	TC74HC04F
IC125	8-759-938-68	s	CXD1095Q
Q1	8-729-107-31	s	2SC3545-T1T44
Q2	8-729-107-31	s	2SC3545-T1T44
Q3	8-729-107-31	s	2SC3545-T1T44
Q4	8-729-107-31	s	2SC3545-T1T44
Q5	8-729-107-31	s	2SC3545-T1T44
Q6	8-729-107-31	s	2SC3545-T1T44
Q7	8-729-107-31	s	2SC3545-T1T44
Q8	8-729-107-31	s	2SC3545-T1T44
Q9	8-729-107-31	s	2SC3545-T1T44
Q10	8-729-107-31	s	2SC3545-T1T44
Q11	8-729-107-31	s	2SC3545-T1T44
Q12	8-729-107-31	s	2SC3545-T1T44
Q13	8-729-107-31	s	2SC3545-T1T44
R3	1-216-615-11	s	METAL 33 0.50% 1/10W
R6	1-216-615-11	s	METAL 33 0.50% 1/10W
R9	1-216-615-11	s	METAL 33 0.50% 1/10W
R12	1-216-615-11	s	METAL 33 0.50% 1/10W
R15	1-216-615-11	s	METAL 33 0.50% 1/10W
R18	1-216-615-11	s	METAL 33 0.50% 1/10W
R21	1-216-615-11	s	METAL 33 0.50% 1/10W
R24	1-216-615-11	s	METAL 33 0.50% 1/10W
R27	1-216-615-11	s	METAL 33 0.50% 1/10W
R30	1-216-615-11	s	METAL 33 0.50% 1/10W
R33	1-216-615-11	s	METAL 33 0.50% 1/10W
R36	1-216-615-11	s	METAL 33 0.50% 1/10W

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(VSW-21 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
R37	1-216-101-00	s	METAL 150K 5% 1/10W
R38	1-216-101-00	s	METAL 150K 5% 1/10W
R39	1-216-101-00	s	METAL 150K 5% 1/10W
R40	1-216-101-00	s	METAL 150K 5% 1/10W
R41	1-216-101-00	s	METAL 150K 5% 1/10W
R42	1-216-101-00	s	METAL 150K 5% 1/10W
R43	1-216-101-00	s	METAL 150K 5% 1/10W
R44	1-216-101-00	s	METAL 150K 5% 1/10W
R45	1-216-101-00	s	METAL 150K 5% 1/10W
R46	1-216-101-00	s	METAL 150K 5% 1/10W
R47	1-216-101-00	s	METAL 150K 5% 1/10W
R48	1-216-101-00	s	METAL 150K 5% 1/10W
R66	1-216-101-00	s	METAL 150K 5% 1/10W
RV1	1-228-454-00	s	RES, ADJ, CERMET 200
RV2	1-228-454-00	s	RES, ADJ, CERMET 200
RV3	1-228-454-00	s	RES, ADJ, CERMET 200
RV4	1-228-454-00	s	RES, ADJ, CERMET 200
RV5	1-228-454-00	s	RES, ADJ, CERMET 200
RV6	1-228-454-00	s	RES, ADJ, CERMET 200
RV7	1-228-454-00	s	RES, ADJ, CERMET 200
RV8	1-228-454-00	s	RES, ADJ, CERMET 200
RV9	1-228-454-00	s	RES, ADJ, CERMET 200
RV10	1-228-454-00	s	RES, ADJ, CERMET 200
RV11	1-228-454-00	s	RES, ADJ, CERMET 200
RV12	1-228-454-00	s	RES, ADJ, CERMET 200
RV13	1-228-454-00	s	RES, ADJ, CERMET 200

CPU-68 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6267-177-A	o	MOUNTED CIRCUIT BOARD, CPU-68
3pcs	1-562-579-21	s	RECEPTACLE,
1pc	2-182-909-01	o	LEVER, PC BOARD
2pcs	7-626-320-11	o	PIN, SPRING 3x8
BZ1	1-529-025-00	s	BUZZER
C1	1-126-392-11	s	ELECT 100uF 20% 6.3V
C2	1-126-392-11	s	ELECT 100uF 20% 6.3V
C3	1-126-392-11	s	ELECT 100uF 20% 6.3V
C4	1-126-392-11	s	ELECT 100uF 20% 6.3V
C5	1-163-038-00	s	CERAMIC 0.1 25V
C6	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C7	1-163-038-00	s	CERAMIC 0.1 25V
C10	1-126-392-11	s	ELECT 100uF 20% 6.3V
C11	1-163-089-00	s	CERAMIC 6PF 0.5PF 50V
C12	1-163-089-00	s	CERAMIC 6PF 0.5PF 50V
C13	1-163-093-00	s	CERAMIC 10PF 5% 50V
C20	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C21	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C22	1-126-392-11	s	ELECT 100uF 20% 6.3V
C23	1-163-038-00	s	CERAMIC 0.1 25V
C24	1-163-038-00	s	CERAMIC 0.1 25V
C25	1-163-038-00	s	CERAMIC 0.1 25V
C26	1-126-392-11	s	ELECT 100uF 20% 6.3V
C27	1-163-038-00	s	CERAMIC 0.1 25V
C28	1-126-392-11	s	ELECT 100uF 20% 6.3V
C29	1-126-392-11	s	ELECT 100uF 20% 6.3V
C30	1-163-038-00	s	CERAMIC 0.1 25V
C31	1-126-392-11	s	ELECT 100uF 20% 6.3V
C32	1-163-105-00	s	CERAMIC 33PF 5% 50V
C33	1-163-093-00	s	CERAMIC 10PF 5% 50V
C34	1-163-038-00	s	CERAMIC 0.1 25V
C35	1-163-038-00	s	CERAMIC 0.1 25V
C36	1-163-038-00	s	CERAMIC 0.1 25V
C38	1-163-089-00	s	CERAMIC 6PF 0.5PF 50V
C39	1-163-038-00	s	CERAMIC 0.1 25V
C40	1-163-093-00	s	CERAMIC 10PF 5% 50V
C41	1-126-395-11	s	ELECT 22uF 20% 16V
C42	1-163-038-00	s	CERAMIC 0.1 25V
C45	1-126-392-11	s	ELECT 100uF 20% 6.3V
C46	1-163-125-00	s	CERAMIC 220PF 5% 50V
C47	1-163-038-00	s	CERAMIC 0.1 25V
C48	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C49	1-163-038-00	s	CERAMIC 0.1 25V
C50	1-163-038-00	s	CERAMIC 0.1 25V
C51	1-163-038-00	s	CERAMIC 0.1 25V
C52	1-163-104-00	s	CERAMIC 30PF 5% 50V
C53	1-163-104-00	s	CERAMIC 30PF 5% 50V
C54	1-163-038-00	s	CERAMIC 0.1 25V
C55	1-163-038-00	s	CERAMIC 0.1 25V
C56	1-163-038-00	s	CERAMIC 0.1 25V
C58	1-126-634-11	s	ELECT 2200uF 5.5VF
C59	1-125-570-11	s	ELEF 5.5VF
C64	1-126-392-11	s	ELECT 100uF 20% 6.3V
C65	1-126-392-11	s	ELECT 100uF 20% 6.3V
C66	1-163-038-00	s	CERAMIC 0.1 25V
C67	1-126-392-11	s	ELECT 100uF 20% 6.3V
C69	1-126-392-11	s	ELECT 100uF 20% 6.3V
C71	1-163-038-00	s	CERAMIC 0.1 25V

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(CPU-68 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
C72	1-163-038-00	s	CERAMIC 0.1 25V
C73	1-163-038-00	s	CERAMIC 0.1 25V
C74	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C75	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C76	1-163-038-00	s	CERAMIC 0.1 25V
C77	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C78	1-135-092-21	s	TANTAL 3.3uF 10% 16V
C79	1-163-141-00	s	CERAMIC 0.001uF 5% 50V
CN1M	1-566-986-11	o	CONNECTOR, MULTI 100P
CN2M	1-566-986-11	o	CONNECTOR, MULTI 100P
CN3M	1-564-359-00	o	HEADER, CONNECTOR 20P
D4	8-719-100-03	s	1S2835
D5	8-719-100-03	s	1S2835
D6	8-719-100-03	s	1S2835
D7	8-719-100-03	s	1S2835
D8	8-719-100-03	s	1S2835
D9	8-719-100-03	s	1S2835
D10	8-719-100-03	s	1S2835
D11	8-719-100-03	s	1S2835
D13	8-719-100-03	s	1S2835
D14	8-719-100-03	s	1S2835
D15	8-719-400-35	s	LN35BP
D16	8-719-400-35	s	LN35BP
D17	8-719-100-03	s	1S2835
D18	8-719-100-03	s	1S2835
D19	8-719-100-03	s	1S2835
D20	8-719-100-03	s	1S2835
D21	8-719-100-03	s	1S2835
D22	8-719-100-03	s	1S2835
D23	8-719-100-03	s	1S2835
D24	8-719-100-03	s	1S2835
D25	8-719-100-03	s	1S2835
ICA3	8-759-908-35	s	TL7705CP-B
ICB1	8-759-926-32	s	AM26LS32PC
ICB2	8-759-927-29	s	SN74HCU04NS
ICB3	8-759-113-74	s	UPD72001C
ICB4	8-759-204-94	s	TC74HC00F
ICB5	8-759-744-51	s	MBM27C256A-BVS1212
ICB6	8-752-328-10	s	CXK5864BP-10L
ICB7	8-759-926-77	s	SN74HC541NS
ICC1	8-759-926-30	s	AM26LS30PC
ICC2	8-759-926-74	s	SN74HC393NS
ICC4	8-759-926-12	s	SN74HC139NS
ICC7	8-759-926-49	s	SN74HC245NS
ICD2	8-759-204-96	s	TC74HC04F
ICD6	8-759-926-11	s	SN74HC138NS
ICD7	8-759-204-94	s	TC74HC00F
ICE4	8-759-143-98	s	UPD70320L-8
ICE6	8-759-926-11	s	SN74HC138NS
ICF2	8-759-206-28	s	TC74HC123F
ICF3	8-759-206-28	s	TC74HC123F
ICF7	8-759-206-28	s	TC74HC123F
ICG2	8-759-987-27	s	LM1881M
ICH2	8-759-938-68	s	CXD1095Q

(CPU-68 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
ICH5	8-759-938-68	s	CXD1095Q
ICH6	8-759-938-68	s	CXD1095Q
JW1	1-564-948-21	o	PIN, CONNECTOR 3P
JW2	1-564-948-21	o	PIN, CONNECTOR 3P
JW3	1-564-948-21	o	PIN, CONNECTOR 3P
ND1	8-719-901-68	s	GL-6R202
Q5	8-729-107-31	s	2SC3545-T1T44
Q6	8-729-216-22	s	2SA812-T1M6
Q7	8-729-113-23	s	FA1L4L-T1L30
Q8	8-729-113-23	s	FA1L4L-T1L30
Q9	8-729-113-23	s	FA1L4L-T1L30
Q10	8-729-113-23	s	FA1L4L-T1L30
Q11	8-729-113-23	s	FA1L4L-T1L30
Q12	8-729-113-23	s	FA1L4L-T1L30
Q13	8-729-113-23	s	FA1L4L-T1L30
Q14	8-729-113-23	s	FA1L4L-T1L30
Q15	8-729-113-23	s	FA1L4L-T1L30
Q16	8-729-113-23	s	FA1L4L-T1L30
Q17	8-729-113-23	s	FA1L4L-T1L30
Q18	8-729-113-23	s	FA1L4L-T1L30
Q19	8-729-113-23	s	FA1L4L-T1L30
Q20	8-729-113-23	s	FA1L4L-T1L30
Q21	8-729-113-79	s	FN1F4N-T1M35
Q22	8-729-113-79	s	FN1F4N-T1M35
Q23	8-729-113-79	s	FN1F4N-T1M35
Q24	8-729-113-79	s	FN1F4N-T1M35
Q25	8-729-113-79	s	FN1F4N-T1M35
Q26	8-729-113-79	s	FN1F4N-T1M35
Q27	8-729-113-79	s	FN1F4N-T1M35
Q28	8-729-113-79	s	FN1F4N-T1M35
Q29	8-729-113-79	s	FN1F4N-T1M35
Q30	8-729-113-79	s	FN1F4N-T1M35
Q31	8-729-113-79	s	FN1F4N-T1M35
Q32	8-729-113-79	s	FN1F4N-T1M35
Q33	8-729-113-79	s	FN1F4N-T1M35
Q34	8-729-113-79	s	FN1F4N-T1M35
Q35	8-729-107-31	s	2SC3545-T1T44
R10	1-216-121-00	s	METAL 1M 5% 1/10W
R22	1-216-105-00	s	METAL 220K 5% 1/10W
R24	1-216-109-00	s	METAL 330K 5% 1/10W
R25	1-216-105-00	s	METAL 220K 5% 1/10W
R28	1-216-615-11	s	METAL 33 0.50% 1/10W
R29	1-216-117-00	s	METAL 680K 5% 1/10W
R84	1-216-295-00	s	METAL 0 5% 1/10W
R85	1-216-295-00	s	METAL 0 5% 1/10W
R146	1-216-615-11	s	METAL 33 0.50% 1/10W
R148	1-216-121-00	s	METAL 1M 5% 1/10W
R216	1-216-295-00	s	METAL 0 5% 1/10W
S1	1-571-967-11	s	SWITCH, DIP (PIANO TYPE)
S2	1-554-027-00	s	ROTARY
S3	1-554-027-00	s	ROTARY
S4	1-570-623-11	s	DIP
S5	1-570-623-11	s	DIP
S6	1-554-080-00	s	SWITCH, ROTARY
S7	1-554-080-00	s	SWITCH, ROTARY
S8	1-554-080-00	s	SWITCH, ROTARY

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

(CPU-68 BOARD)

Ref. No. or Q'ty	Part No.	SP	Description
S9	1-554-080-00	s	SWITCH, ROTARY
S11	1-552-539-00	s	KEY BOARD
X1	1-567-133-00	s	OSCILLATOR, CERAMIC 4.91MHz
X2	1-567-927-11	s	OSCILLATOR, CERAMIC 16.00MHz

CN-334 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
CN1F	1-566-984-11	o	RECEPTACLE,MULTI CONNECTOR100P
CN2F	1-566-984-11	o	RECEPTACLE,MULTI CONNECTOR100P
CN3M	1-560-303-00	o	POST HEADER (IL CONNECTOR) 6P
CN42M	1-506-468-11	s	3P
FL1	1-421-773-11	s	FILTER, NOISE REMOVAL
FL2	1-421-773-11	s	FILTER, NOISE REMOVAL

CN-335 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6257-242-A	o	MOUNTED CIRCUIT BOARD, CN-335
4pcs	7-622-207-05	s	N 2.6, TYPE 2
4pcs	7-628-254-40	s	SCREW +PS 2.6X12
6pcs	7-682-948-01	s	SCREW +PSW 3x8
C1	1-124-287-00	s	ELECT 10uF 20% 10V
C2	1-126-157-11	s	ELECT 10 20% 16V
C3	1-126-157-11	s	ELECT 10 20% 16V
C4	1-102-936-00	s	CERAMIC 3PF 0.25PF 50V
C5	1-102-937-00	s	CERAMIC 4PF 0.25PF 50V
C6	1-124-471-00	s	ELECT 1000 20% 6.3V
C7	1-124-471-00	s	ELECT 1000 20% 6.3V
C8	1-102-936-00	s	CERAMIC 3PF 0.25PF 50V
C9	1-102-937-00	s	CERAMIC 4PF 0.25PF 50V
C10	1-124-471-00	s	ELECT 1000 20% 6.3V
C11	1-124-471-00	s	ELECT 1000 20% 6.3V
CN1F	1-566-984-11	o	RECEPTACLE,MULTI CONNECTOR100P
CN2F	1-566-984-11	o	RECEPTACLE,MULTI CONNECTOR100P
CN3M	1-564-921-11	o	PIN, CONNECTOR 7P
CN5M	1-560-303-00	o	POST HEADER (IL CONNECTOR) 6P
CN6F	1-563-322-11	s	D-SUB(MOUNT TYPE) 25P
CN7F	1-563-323-11	s	D-SUB(MOUNT TYPE) 9P
CN8F	1-563-323-11	s	D-SUB(MOUNT TYPE) 9P
FL1	1-421-773-11	s	FILTER, NOISE REMOVAL
FL2	1-421-773-11	s	FILTER, NOISE REMOVAL
IC1	0-266-798-00	s	INPUT IC
IC2	1-808-776-11	s	HIC (V OUT)
IC3	1-808-776-11	s	HIC (V OUT)
R1	1-215-373-31	s	METAL 10 1% 1/6W
R2	1-215-373-31	s	METAL 10 1% 1/6W
R3	1-215-394-00	s	METAL 75 1% 1/6W
R4	1-215-427-00	s	METAL 1.8K 1% 1/6W
R5	1-215-420-00	s	METAL 910 1% 1/6W
R6	1-215-395-00	s	METAL 82 1% 1/6W
R7	1-215-449-00	s	METAL 15K 1% 1/6W
R8	1-215-421-00	s	METAL 1K 1% 1/6W
R9	1-215-429-00	s	METAL 2.2K 1% 1/6W
R10	1-215-429-00	s	METAL 2.2K 1% 1/6W
R11	1-215-394-00	s	METAL 75 1% 1/6W
R12	1-215-394-00	s	METAL 75 1% 1/6W
R13	1-215-394-00	s	METAL 75 1% 1/6W
R14	1-215-394-00	s	METAL 75 1% 1/6W
R15	1-215-427-00	s	METAL 1.8K 1% 1/6W
R16	1-215-420-00	s	METAL 910 1% 1/6W
R17	1-215-395-00	s	METAL 82 1% 1/6W
R18	1-215-449-00	s	METAL 15K 1% 1/6W
R19	1-215-421-00	s	METAL 1K 1% 1/6W
R20	1-215-394-00	s	METAL 75 1% 1/6W
R21	1-215-394-00	s	METAL 75 1% 1/6W
R22	1-215-394-00	s	METAL 75 1% 1/6W
R23	1-215-394-00	s	METAL 75 1% 1/6W
R24	1-215-373-31	s	METAL 10 1% 1/6W
R25	1-215-373-31	s	METAL 10 1% 1/6W

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

LE-76 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-631-489-11	o	PC BOARD, LE-76
4pcs	3-674-390-00	o	HOLDER (B), LED
CN1	1-506-468-11	s	3P
D1	8-719-812-32	s	TLY123
D2	8-719-812-32	s	TLY123
D3	8-719-812-32	s	TLY123
D4	8-719-812-32	s	TLY123
R1	1-249-408-11	s	CARBON 180 5% 1/4W
R2	1-249-408-11	s	CARBON 180 5% 1/4W
R3	1-249-408-11	s	CARBON 180 5% 1/4W
R4	1-249-408-11	s	CARBON 180 5% 1/4W

FRAME

Ref. No. or Q'ty	Part No.	SP	Description
1pc	1-944-066-11	o	HARNESS (V102) (20P/20P)
CN101	⚠1-560-222-11	s	3P INLET
(to CN-334 board)			
CN3M	1-509-987-00	o	HOUSING, IL CONNECTOR 6P
	1-560-298-00	o	TERMINAL, SOLDERLESS
CN42M	1-562-148-11	o	3P
	1-564-026-00	o	CONTACT
(to CN-335 board)			
CN3M	⚠1-560-764-21	o	TERMINAL, SOLDERLESS
	1-562-822-11	o	HOUSING, CONNECTOR 7P
CN5M	1-509-987-00	o	HOUSING, IL CONNECTOR 6P
	1-560-298-00	o	TERMINAL, SOLDERLESS
(to EDD-111)			
	⚠1-560-764-21	o	TERMINAL, SOLDERLESS
	⚠1-562-818-11	o	HOUSING, CONNECTOR 3P
S101	⚠1-570-384-11	s	SWITCH, SEESAW (AC POWER)

EX-224 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6266-178-A	o	MOUNTED CIRCUIT BOARD, EX-224
8pcs	7-622-207-05	s	N 2.6, TYPE 2
1pc	7-682-947-01	s	SCREW +PSW 3x6
CN1M	1-566-986-11	o	CONNECTOR, MULTI 100P
CN2M	1-566-986-11	o	CONNECTOR, MULTI 100P
CN3F	1-566-984-11	o	RECEPTACLE,MULTI CONNECTOR100P
CN4F	1-566-984-11	o	RECEPTACLE,MULTI CONNECTOR100P

ACCESSORY SUPPLIED

Ref. No. or Q'ty	Part No.	SP	Description
	A-6266-178-A	o	MOUNTED CIRCUIT BOARD, EX-224
	⚠1-534-754-00	s	POWER CORD (for J)
	⚠1-551-812-00	s	CORD, POWER (for UC)
	⚠1-556-760-11	s	CORD, POWER (3 CORE) (for EK)
	1-943-888-12	o	HARNESS (UNIT)
	3-668-459-00	s	SCREW, CONNECTOR
	1-944-065-21	o	HARNESS (A102)
	2-990-242-01	o	HOLDER (B), PLUG

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Parts List".

SW-354 BOARD

Ref. No. or Q'ty	Part No.	SP	Description
1pc	A-6267-176-A	o	MOUNTED CIRCUIT BOARD, SW-354
1pc	2-130-288-01	o	SUPPORT
1pc	4-612-636-01	s	SCREW, CONNECTOR FITTING
C1	1-124-589-11	s	ELECT 47 20% 16V
C2	1-124-589-11	s	ELECT 47 20% 16V
CN1	1-568-675-11	o	CONNECTOR, D-SUB 25P
D1	8-719-911-19	s	1SS119
D2	8-719-911-19	s	1SS119
D3	8-719-911-19	s	1SS119
D4	8-719-911-19	s	1SS119
D5	8-719-911-19	s	1SS119
D6	8-719-911-19	s	1SS119
D7	8-719-911-19	s	1SS119
D8	8-719-911-19	s	1SS119
D9	8-719-911-19	s	1SS119
D10	8-719-911-19	s	1SS119
D11	8-719-911-19	s	1SS119
D12	8-719-911-19	s	1SS119
D13	8-719-911-19	s	1SS119
D14	8-719-911-19	s	1SS119
D15	8-719-911-19	s	1SS119
D16	8-719-911-19	s	1SS119
D17	8-719-911-19	s	1SS119
D18	8-719-911-19	s	1SS119
IC1	8-759-921-85	s	SN74HC4515NT
IC2	8-759-921-85	s	SN74HC4515NT
Q1	8-729-119-78	s	2SC2785-F
R1	1-215-405-00	s	METAL 220 1% 1/6W
R2	1-215-409-00	s	METAL 330 1% 1/6W
R3	1-215-373-31	s	METAL 10 1% 1/6W
R4	1-215-373-31	s	METAL 10 1% 1/6W
R5	1-215-453-00	s	METAL 22K 1% 1/6W
R6	1-215-453-00	s	METAL 22K 1% 1/6W
R7	1-215-469-00	s	METAL 100K 1% 1/6W
R8	1-215-469-00	s	METAL 100K 1% 1/6W
R9	1-215-469-00	s	METAL 100K 1% 1/6W
R10	1-215-469-00	s	METAL 100K 1% 1/6W
R11	1-215-469-00	s	METAL 100K 1% 1/6W
R12	1-215-469-00	s	METAL 100K 1% 1/6W
R13	1-215-469-00	s	METAL 100K 1% 1/6W
R14	1-215-469-00	s	METAL 100K 1% 1/6W
S1	1-571-966-11	s	SWITCH, PUSH
S2	1-571-966-11	s	SWITCH, PUSH
S3	1-571-966-11	s	SWITCH, PUSH
S4	1-571-966-11	s	SWITCH, PUSH
S5	1-571-966-11	s	SWITCH, PUSH
S6	1-571-966-11	s	SWITCH, PUSH
S7	1-571-966-11	s	SWITCH, PUSH
S8	1-571-966-11	s	SWITCH, PUSH
S9	1-571-966-11	s	SWITCH, PUSH
S10	1-571-966-11	s	SWITCH, PUSH
S11	1-571-966-11	s	SWITCH, PUSH
S12	1-571-966-11	s	SWITCH, PUSH
S13	1-572-001-11	s	SWITCH, PUSH
S14	1-572-001-21	s	SWITCH, PUSH

ACCESSORY SUPPLIRD

Ref. No. or Q'ty	Part No.	SP	Description
1	1-574-883-11	o	CORD, CONNECTION

Parts that are not listed in the "reference number order list" are shown in the "General Purpose Electrical Part List".

SONY

VIDEO ROUTING SWITCHER (12×12)

BVS-V1212

追加版-1
SUPPLEMENT-1 (Serial No.10001~10080)

内容
SUBJECT

この追加版-1を、お手持ちのマニュアルに追加して御使用下さい。
尚、目次は差し換えて下さい。

Please file this SUPPLEMENT-1 to your own manual, and replace the TABLE OF CONTENTS with attached ones.

MAINTENANCE MANUAL

BVS-V1212
9-967-288-01

Sony Corporation

Printed in Japan
1989. 10 11

目次
TABLE OF CONTENTS

1. 設置

1. INSTALLATION

2. サービスインフォメーション

2. SERVICE INFORMATION

3. テストモード

3. TEST MODE

第 4 章
電気調整要項

[必要な機器]

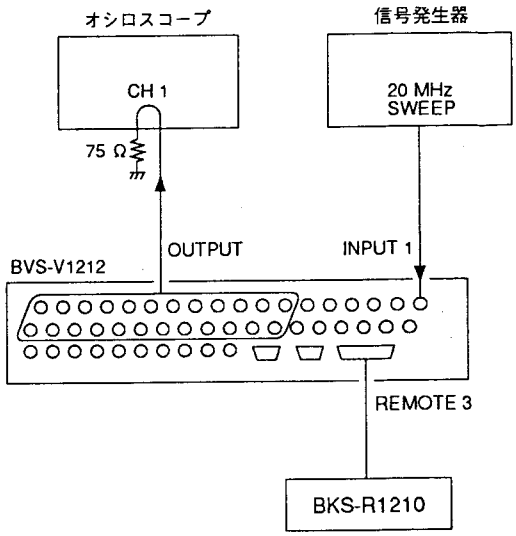
・ビデオ信号発生器　　：テクトロニクス1410または
同等品

・オシロスコープ

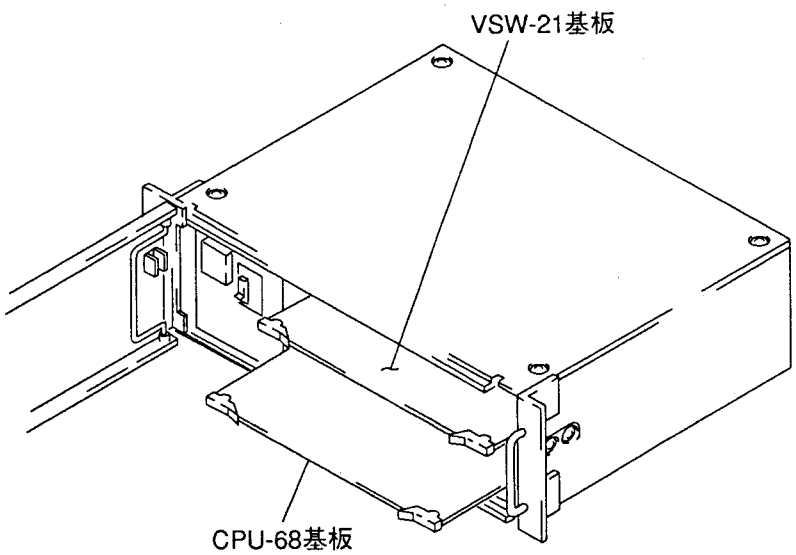
[接続]

信号発生器

・20 MHZ SWEEP HIGH COMPOSITE APLFULLとINPUT 1
を接続します。
（この時、波形が正常であることを確認して下さい。）
・BKS-R1210をREMOTE 3に接続します。



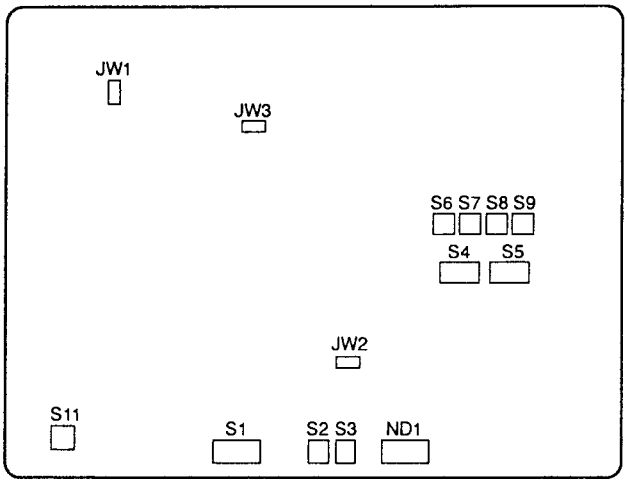
[調整基板配置図]



[スイッチの設定]

CPU-68基板

SW No.	設定値
S1	1-1 CLOSE (OFF) 1-2 1-3 1-4 1-5 1-6 1-7 1-8
S2	0
S3	0
S4	4-1 ON 4-2 OFF 4-3 OFF 4-4 OFF 4-5 OFF 4-6 OFF 4-7 OFF 4-8 OFF
S5	ALL OFF
S6	0
S7	0
S8	0
S9	0
JW1	OFF
JW2	ENA
JW3	SELF

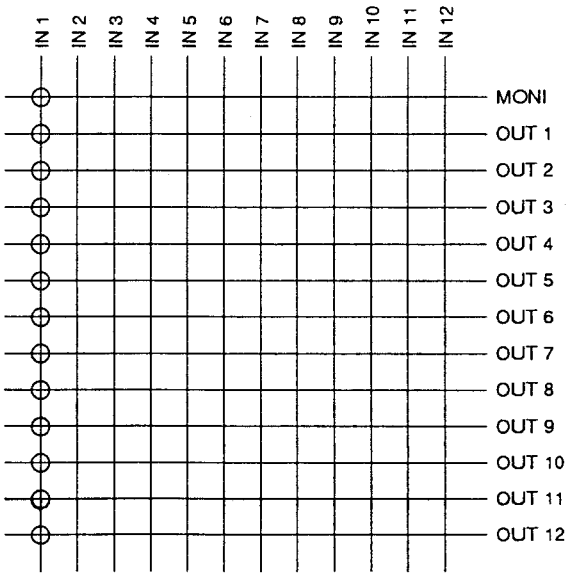


CPU-68基板 (部品面)

[クロスポイントの設定]

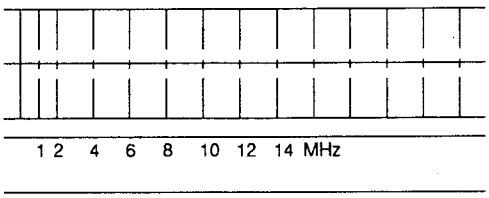
・BKS-R1210で設定するINPUT 1の信号がOUTOPUT 1～12, MONIに出力されるように設定してください。

・BKS-R1210のINPUT（赤ボタン）を押して“1”を押すと右図のような設定にすることができます。

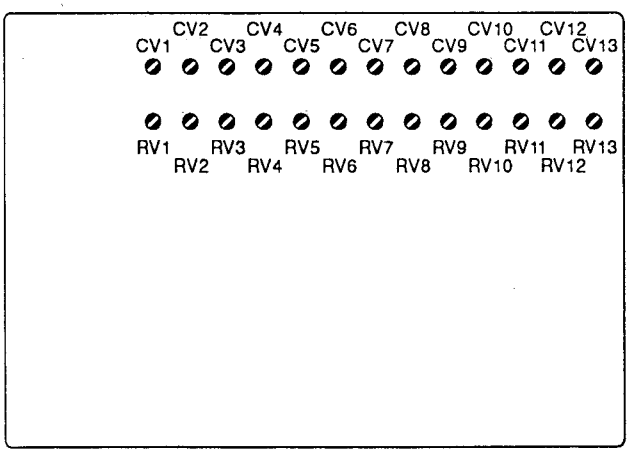


○クロスポイント ON

4—1. GAIN・f特調整

調整時の状態	規格	調整箇所
・オシロスコープのCH1とVIDEO OUT 1を接続します。 ・BKS-R1210の"1"を押します。	オシロスコープのCH1とCH2の波形を重ね合わせます。 ・1MHz付近を入力波形に対し、± 5mVの範囲で等しくなるように調整します。（GAIN） ・12MHz付近を1MHz付近に対し± 5mVの範囲で等しくなるように調整します。（f特）  	● RV1/VSW-21（C-6） （GAIN） ● CV1/VSW-21（B-6） （f特）

オシロスコープのCH1を、VIDEO OUT2～12, MONI OUTに差し換えて、上記と同様の調整を行って下さい。



VSW-21基板（部品面）

VIDEO OUT コネクター	RV ボリューム	CV ボリューム
VIDEO OUT 2	RV 2	CV 2
VIDEO OUT 3	RV 3	CV 3
VIDEO OUT 4	RV 4	CV 4
VIDEO OUT 5	RV 5	CV 5
VIDEO OUT 6	RV 6	CV 6
VIDEO OUT 7	RV 7	CV 7
VIDEO OUT 8	RV 8	CV 8
VIDEO OUT 9	RV 9	CV 9
VIDEO OUT 10	RV 10	CV 10
VIDEO OUT 11	RV 11	CV 11
VIDEO OUT 12	RV 12	CV 12
VIDEO MONI OUT	RV 13	CV 13

SECTION 4
ELECTRICAL ALIGNMENTS

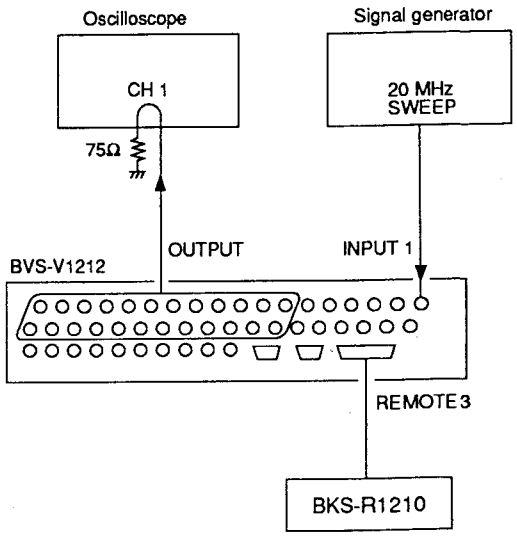
[Equipment required]

- Video signal generator: Tektronix 1410 or equivalent.
- Oscilloscope

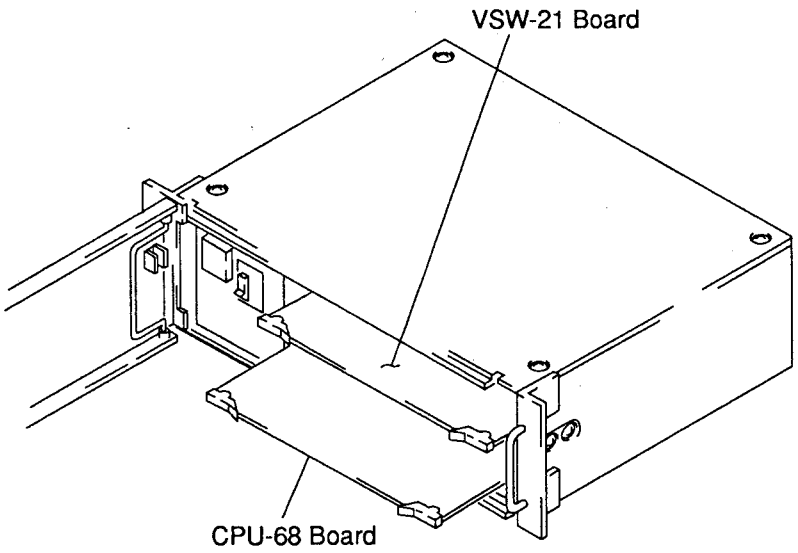
[Connections]

Connect to the 20 MHz SWEEP HIGH COMPOSITE APLFULL and INPUT 1 connectors.
Then, confirm that the wave form is correct.

Connect the BKS-R1210 to the REMOTE 3.



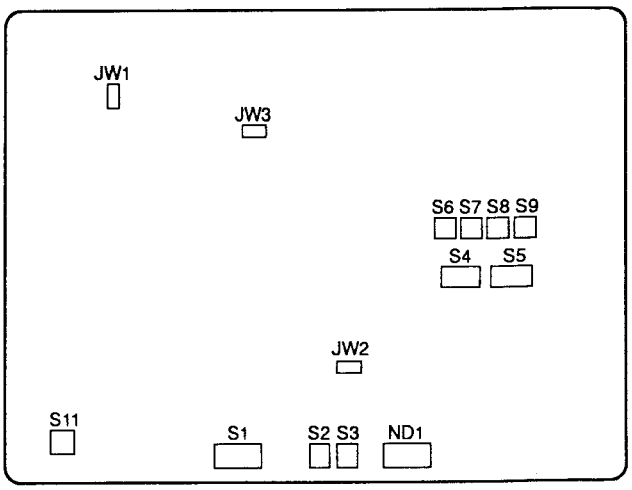
[Layout of the print board]



[Setting switches]

- **CPU-68 Board**

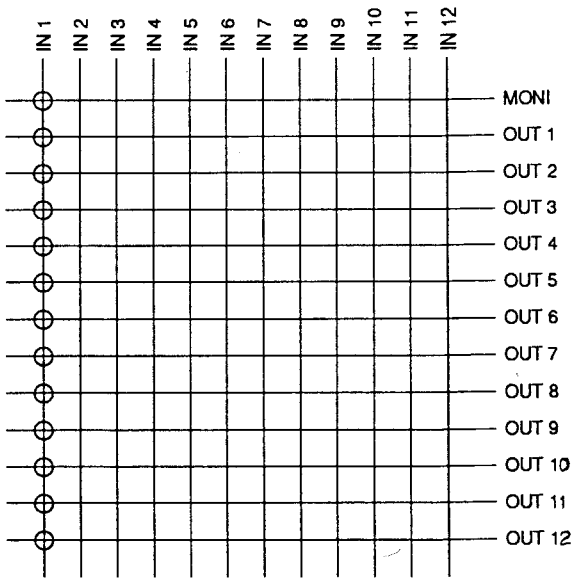
SW No.	Position
S1	1-1 CLOSE (OFF) 1-2 1-3 1-4 1-5 1-6 1-7 1-8
S2	0
S3	0
S4	4-1 OFF 4-2 OFF 4-3 ON 4-4 ON 4-5 OFF 4-6 OFF 4-7 OFF 4-8 OFF
S5	ALL OFF
S6	0
S7	0
S8	0
S9	0
JW1	ON
JW2	ENA
JW3	SELF



CPU-68 Board (Component Side)

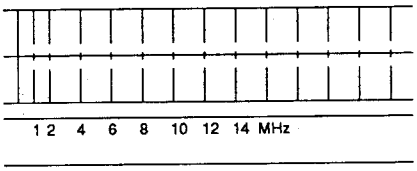
[Cross point setting]

- Connect so that the INPUT 1 signals, set using the BKS-R1210, is output to OUTPUT 1-12 and the MONI connectors.
- Press the button on the BKS-R1210 (RED button) and "1".
  Enable to set as right figure.

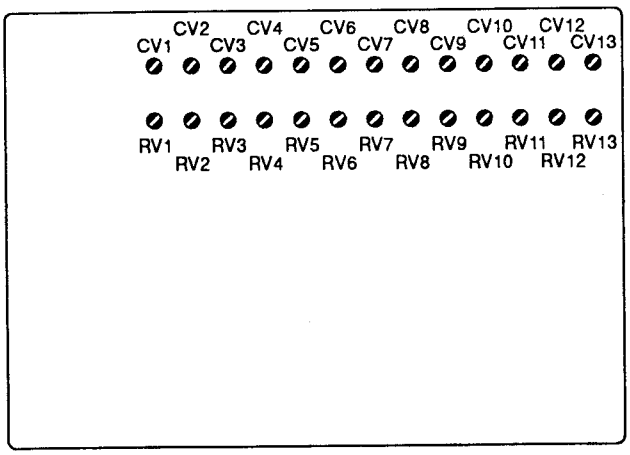


○ Cross point ON

4-1. GAIN FREQUENCY RESPONSE ADJUSTMENT

Conditions	Specifications	Adjustments
• Connect to the CH1 of the oscilloscope and VIDEO OUT 1.	• Aligh the waveforms on CH-1 and CH-2 of the oscilloscope. • Adjust output level around 1MHz within –0.5 to +0.5V in compared with input waveform. (GAIN adjustment) • Adjust output level around the 12MHz within –0.5 to +0.5V in compared with waveform around the 1MHz. (Frequency response adjustment) 	⊘ RV-1/VSW-21 (C-6) (GAIN adjustment) ⊘ CV1/VSW-21 (B6) (Frequency response adjustment)

Make adjustments connecting CH-1 of the oscilloscope to VIDEO OUT 2 through VIDEO OUT12 and MONI OUT. Make the adjustments using the controls coresponding to each VIDEO OUT connector respectively.



VSW21 Board (Component Side)

Connector	Volume	Switch
VIDEO OUT2	RV2	CV2
VIDEO OUT3	RV3	CV3
VIDEO OUT4	RV4	CV4
VIDEO OUT5	RV5	CV5
VIDEO OUT6	RV6	CV6
VIDEO OUT7	RV7	CV7
VIDEO OUT8	RV8	CV8
VIDEO OUT9	RV9	CV9
VIDEO OUT10	RV10	CV10
VIDEO OUT11	RV11	CV11
VIDEO OUT12	RV12	CV12
VIDEO MONI OUT	RV13	CV13

SECTION 5
BLOCK DIAGRAM

OVERALL